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Presented is a collection of articles from "The Division for Girls and Women's Sports (DGWS) Guides 1964-1970," "Research Quarterly 1962-1969," and "Journal of Health, Physical Education, and Recreation, 1962-1969." It is the latest in the American Association for Health, Physical Education, and Recreation "AAHPER's Sports Articles Reprint Series," a special project of the Publications Area, DGWS. This is the third edition of "Selected Tennis and Badminton Articles." (Author)

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SPORTS ARTICLES REPRINT SERIES

Selected Tennis and Badminton Articles

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SP 006 734

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preface

The Division of Girls and Women's Sports has, as one of its many responsibilities, the publishing of official rules which govern play for girls and women's sports. The *Guides* which contain these official rules also include officiating techniques and many excellent articles written by teachers, coaches and players. It is the belief of DGWS that many of these articles are of significance and should be made available for further use.

This is the third edition of the Tennis-Badminton Selected Reprint Series. The first occurred in 1958, and the second in 1963.

The material used in this edition has been carefully selected on the basis of current interest, value, and general excellence.

Through the use of this publication it is our desire that the sports of tennis and badminton can be enjoyed more fully.

Jo Ann Tyler
Editor

teaching techniques

Teaching the Forehand and Backhand

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In teaching the basic ground strokes the three most important factors are grip, footwork, and swing, and they should be taught in that order.

The following sequence photos of the two strokes illustrate the correct actions. The instructor may wish to explain footwork and swing separately, or she may combine them in her explanation.

All directions should be made as simple as possible and should be repeated in demonstrations, and again with the students going through the actions, the instructor leading them.

Figure 1

Figure 2

FOREHAND

Figure 1. Grip: Eastern, "V" between thumb and index finger rests squarely over center of top facet of handle as racket is held on edge. Index finger rides up handle in trigger finger position. Heel of hand rests against butt of handle (young children may choke up on the grip as illustrated).

Figure 2. Footwork: The waiting position or stance is taken facing the net with feet spread comfortably, knees bent slightly, and the weight on the balls of the feet.

Pre-swing: The racket is held comfortably in front of the body pointing slightly to the left of the center of the net, with the throat of the racket resting easily in the left hand.

Figure 3. Footwork: As the ball passes over the net from the opponent, the player pivots her upper body to the right, simultaneously shifting her weight to her right foot.
Swing: As the player pivots her shoulders the racket is taken back about waist high, *without* breaking the wrist. The arm is slightly bent with the right elbow close to the right hip. At the extremity

Figure 3

Figure 4

Figure 5

of the back-swing the racket should be pointing at the fence behind the player.

Figure 4. Footwork: Just as the forward swing is begun the player swings her left foot toward the net, shifting almost all her weight onto this foot. Both knees must *remain* bent.
Swing: As the forward swing is begun, the player allows the racket head to drop slightly, transcribing a shallow loop, so that the racket will be rising at the point of ball contact, which should be approximately opposite the left foot. The wrist remains locked, and the racket is held very firmly.

Figure 5. Footwork: The weight is held forward by keeping the left knee bent until the shot is completed.
Swing: The racket head must follow the ball and its flight over the net. The ball must be held on the strings as long as possible, and this is accomplished by the follow-through. The racket continues to rise after contact and finishes at approximately head height. The rising swing puts top-spin on the ball.

It will be noted that the footwork for the backhand is identical to that for the forehand except that the feet work in reverse.

BACKHAND

Figure 1. Grip: Eastern. The hand is shifted to the left so that the "V" points straight down the left side of the handle. The first joint of the thumb must rest against the left side facet of the handle to brace the racket for the impact when hitting the ball.

Figure 2. Pre-swing: The waiting position or stance is the same. The player changes to the backward grip as soon as she perceives that the ball is coming to her left side.

Figure 3. Swing: The player pivots her shoulders *well back* to the left, so that she is watching the ball over her right shoulder. The left hand remains on the throat of the racket throughout the backswing. The elbow of the racket arm is kept tucked in to the body and the right hand is close to the left hip at the extremity of the backswing.

Figure 4. Swing. The racket head transcribes a shallow loop so that it is rising upon ball contact, which is made *forward* of the right or lead foot. Both wrist and arm are kept rigid throughout this part of the swing.

Figure 5. Swing: The racket head continues to rise so as to impart top-spin, and the racket head must follow the flight of the ball. The racket head finishes at least as high as the head of the player.

Figure 1

Figure 2

Figure 3

Figure 4

Figure 5

Teaching the Serve

MARY JANE DONNALLEY
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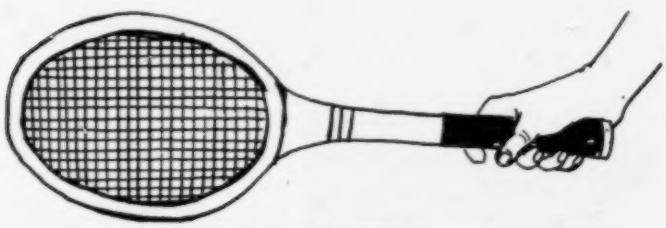
The serve is to tennis as the pitch is to baseball; it starts the game of tennis. The overarm baseball throwing motion is similar to the serving motion. A person's ability to throw a ball is closely related to the skill of serving. A good method when teaching children to serve in tennis is to teach them first how to throw a ball properly.

In the game of tennis there are three kinds of serves that a player can use to put spin on a ball in order to make the return of serve more difficult. These serves are called (1) the American slice serve, (2) the flat serve, and (3) the American twist serve.



Continental service grip

The Service Grip

The most efficient way of holding the tennis racket to serve effectively is to use the Continental or hammer grip. In this grip the "V" of the hand, that area between the thumb and index finger, is halfway between the Eastern forehand and the Eastern backhand grip. It is used because it allows for the maximum wrist flexibility and this flexible wrist is necessary if spin is to be imparted to the ball. The gripping of the racket handle for serving should be done chiefly with the fingers so that the wrist may remain supple. The Eastern grip is *not* recommended for serving because this grip does not permit a flexible wrist and thus only a flat serve will be learned. An inflexible wrist immediately limits the player's potential ability; a Continental grip is necessary, therefore, if a player

wishes to master the three types of serve: the American twist, the American slice, and the flat serve.

The Educated Wrist. To play tennis well demands a unique balance between relaxation and tension: relaxation and freedom of motion in the swinging of the arm from the shoulder, and tension and firmness in the wrist as the racket contacts the ball.

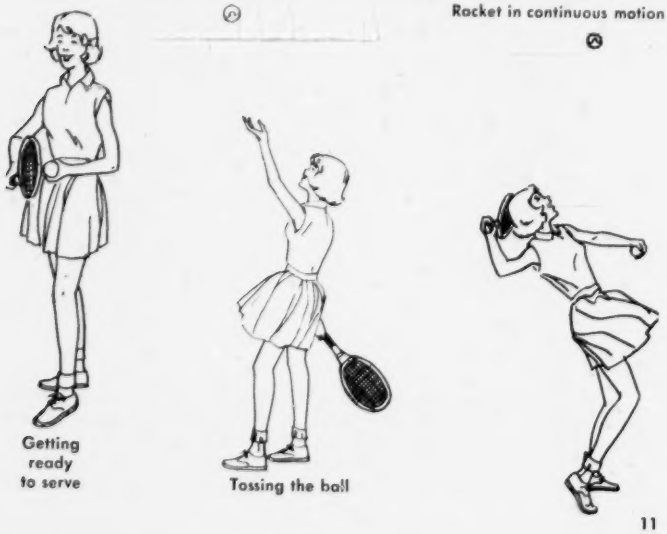
Wrist control is, in fact, a key to better tennis. The firm wrist is essential on the forehand and backhand drive, which are basic ground strokes; a firm wrist is also needed on the volley and the chop.

The absolute opposite, a complete flexibility of the wrist, is demanded in order to serve effectively. The gripping must be done with the fingers in the service grip, the wrist muscles remaining flexible. This same relaxed wrist action is also needed on the overhead smash and the drop shot.

It is the educated wrist that will meet the challenge of good tennis.

Getting Ready to Serve

In preparation for the serve, stand behind the baseline and sideways to the net. For the first point of the game, stand slightly to the right of the center of the baseline. The weight is evenly dis-



Getting ready to serve

Tossing the ball

tributed on both feet; the left hand holds two balls; and the middle finger of the left hand touches the throat of the racket. The right hand holds the racket and points the racket head at the court on the opposite side of the net into which the ball is to be served.

Tossing the Ball for the Serve

One of the most important parts of serving is consistently tossing the ball to the same height and spot. Try for a few minutes simply tossing the ball up in the air high above the right shoulder. Now see if the ball can be caught without moving the feet. Practice tossing the ball over and over, letting the fingers guide the ball up into the air before letting go of it. In the American slice serve, it is best to throw the ball as high above the right shoulder as possible with the racket extended straight up; the ball is hit on the right top side, and consequently it curves from right to left as it goes over the net.

American slice serve

Flat serve

The Flat Serve

As skill increases, the player will want to try the flat service stroke, which is basically the same as the American slice service stroke. The two differences are: (1) the racket strikes the ball in a flat position and the ball is hit directly on top; (2) just as in the slice serve, the ball is tossed as high as the server can reach with

the racket extended; however, the ball is more directly in front of the server and not so far to the right as in the slice serve.

The American Twist Serve

This serve (for advanced players only) is one of the most difficult to return because the ball takes an unusual hop after it bounces. This type of service stroke is also quite difficult to execute. It is used more often in doubles play than in singles and more often by men than women because the male shoulder girdle is more flexible.

The serve is accomplished by tossing the ball behind the left shoulder; the racket thus hits the ball on the left underside and brushes up and over the ball. The ball arcs over the net with considerable spin on it and, when it bounces, hops away from the receiver. The serving motion goes from left to right, and the follow-through is on the right side of the body.

TEACHING THE SERVE

1. Explain the purpose of serving and its function in the game of tennis.
2. Demonstrate the American slice serve.
3. Arrange the class on the court.
4. Every pupil does mimetic drill of correct overarm baseball throwing motion. Have students play catch with each other for a few minutes. Make necessary corrections.
5. Mimetic drill of serving motion; demonstration by teacher; followed by entire group participating in total motion.
6. Practice tossing and catching the ball.
7. Practice the downward pendulum swing of the racket.
8. Coordinate the tossing motion and the pendulum downswing of the racket together. See that a flexible wrist is maintained and relaxation of motion is occurring.
9. A full, complete serving motion is now made. The racket should stay in constant motion. (The experience of feeling the racket in constant motion may be accomplished by having the students hold the racket in the correct grip almost entirely with the finger tips.) Now go through the total service motion.
10. Close the hand all the way around the racket, using the service grip, and try to recapture the feeling of the free moving racket in continuous motion.
11. Arrange class on court for serving practice in the following manner: If possible, place four students on each court; if the

class is large, eight students on a court can practice profitably. For large classes, have students in equal numbers lined up behind the baseline on both sides of the court. One group serves while the group on the opposite side of the net counts the number of good serves and collects the balls. Service practice is alternated from one side of the court to the other and groups are rotated according to the number of students.

12. Have the students serve on command. A half service stroke is a good starting point for the beginner. Students hang rackets down their backs, elbow high, racket heads down. At the command, "toss and hit," the racket goes swish and the follow-through is on the left side of the body. After the students gain facility in tossing and hitting the serve in this manner, then the whole serving motion can be done.
13. Divide students onto all available courts. Twenty balls for every two students will make progress more rapid. When a student has served 15 out of 20 balls in reasonably good form, she is ready to put the serve in a game situation.

The rhythm of serving is: slow, loop, fast. Slow on the co-ordinated downward pendulum swing of the racket arm with the ball tossing arm. The weight is on the right foot. Hang onto the ball as long as possible before releasing it. (Pretend that the fingers are sticky.) Releasing the ball at the last second forces the weight onto the back foot and improves the accuracy of the toss. The racket gains momentum as it swings down and around and makes the loop behind the right shoulder. The speed of the loop adjusts to the toss of the ball. After the loop has been made, the racket swings up until the arm is fully extended. The racket head now crashes quickly down on the ball. The object in serving is to hit the ball at the highest point reached when the arm is fully extended. Ideally the ball is at the peak of the toss when it cannot go any higher and it has not yet started to descend. The follow-through of the racket is on the left side of the body. Do not stop the racket and let the tossed ball drop so that it is necessary to hit up at the ball.

A powerful serve depends upon the freedom of the swinging motion, the relaxed flexible wrist, and the speed with which the racket head comes crashing down on the ball. Tensing the muscles, gritting the teeth, and attempting to knock the cover off the ball never effectuates a forceful serve in tennis.

Essential Elements of Good Tennis Form

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The distinction between essential elements of sound tennis form and mere mannerisms confuses many tennis players and teachers. Improved play and competent instruction require an understanding of this difference. Even a casual observation of outstanding players reveals significant variations in many features of their game. Some use the Eastern grip, some the Continental; many swing straight back, others insist upon a circular windup; some employ a closed stance, others stroke squared away or even somewhat open in stance; a roll over the ball is featured by some players while others swing straight through. The success achieved by great players employing varying techniques precludes any intimation that there is only one proper or correct method of stroking a tennis ball. Certainly few would attempt to imitate the two-fisted forehand of Pancho Segura, yet many proclaim it as one of the most potent strokes in the history of tennis. While techniques of sound form vary considerably, they seem to fall within a "range of effectiveness," a range within which success is both possible and probable. This suggests that players and teachers should direct their energies toward developing stroking patterns within this range rather than showing inordinate concern over conformity to unique features of any one specific technique. The distinction between those factors common to all successful patterns and the mere mannerisms of a player thus becomes significant.

Good form in tennis is simply the most efficient method for an individual to control the speed and direction of the ball in competitive situations. This definition suggests that optimum form may vary with an individual's physical characteristics such as strength, size, or speed as well as his aspired level of competition. A young girl, for example, may lack sufficient strength to utilize effectively the Continental grip and short backswing of an international performer. This concept does not imply that successful and proven techniques should be discarded as unimportant, but rather that they be adapted to the individual's ability and potential. Too often teachers insist upon conformity to classical patterns to the detriment of the development of functional form.

Several features of stroking form appear as integral parts of all successful techniques. Careful analysis indicates these to be essential to optimum ball control and thus to good form. Interestingly, these are present in all types of strokes—forehand, backhand, serve, and volley. They represent the cornerstones to good tennis and points of emphasis for both player and teacher, and six elements, listed below, show considerable interrelationship. They may be categorized differently, but the concepts emerge as essential to good hitting.

A Thrust Through the Ball

The momentum of the racket during a stroke flattens the ball against the strings. The strings maintain contact with the ball for approximately six to eight inches along the path of the stroke. During this time, and only during this time, can control of the speed and direction of the ball be achieved; thus, to attain maximum control, this period of contact must be prolonged as long as possible. Actually, adjustments in the swing during this short span are greater than imagined. The racket accelerates through this area so as to provide the thrust-through. (The term "follow-through" is avoided because it denotes action subsequent to contact. A follow-through will occur with proper thrust-through, but it is incidental to the essential push through the ball.) In such an action, the racket describes a flattened-out arc, and the player might feel as though he were hitting through a line of six tennis balls rather than one. The flattened arc results from stepping out toward the hitting target and pivoting the shoulders as part of the swinging arc.

"Tuning In"

"Tuning in" means visual concentration on the ball. It is a learned reflex pattern which requires considerable time before consistent success is possible. One facet of "tuning in" is the need to track the moving ball until the point of contact: a commonplace error is the tendency to look up just prior to contact. Whether or not a player actually sees the ball at the exact moment of contact poses an academic question, but none doubt that retaining visual contact with the ball as long as possible improves the efficiency of the stroke. Hitting the ball on the frame of the racket almost invariably indicates a failure to "tune in" long enough. Keeping the head down close to the ball offers the best insurance against looking up, and in addition, assists in maintaining good body position.

"Tuning in" also requires the player to focus specifically on the ball. All too often a player watches the ball in his peripheral vision while focusing on the opponent or the court. Misjudged balls almost always result from watching the ball in the periphery. Unfortu-

nately, players are often unaware of their failure to "tune in" well enough or long enough because it stems from reflex rather than conscious effort.

Absence of Tension

Successful stroking requires the coordinated functioning of the total body. All parts of the body contribute to the swing. Tense muscles, however, negate a smooth, coordinated effort because the body must be relaxed to function effectively. Obviously a certain degree of muscle tonus is desirable, but the absence of excessive or limiting tension is necessary to good tennis. Muscles should cause motion rather than restrict it. Beginners tend to grip the racket too tightly, which usually restricts both kinesthetic feel and necessary adjustments.

Continual Adjustment

Sound stroking requires good racket-body-ball alignment. Optimum positioning to the ball poses little problem in a game such as golf with its static stance, but in tennis, success depends upon adjusting to the proper point of contact as the ball approaches. The flight of each ball varies and thereby negates the possibility of a rigid, grooved stroke. The secret is continuing adjustment. The body has remarkable ability to compensate for inferior alignment to the ball, but the expert utilizes all the time available for better positioning. While footwork accomplishes the gross adjustment, all parts of the body contribute in properly aligning the body to the ball. It is essential that the adjustment begin as early in the hitting function as possible and continue until actual contact with the racket.

Early Backswing

The function of the backswing is to place the racket in the best position for the forward swing. The player should accomplish this as she moves into position, not after she arrives there. The timing of the backswing is vital and must not be hurried. The point of origin for the forward swing is important as it must permit an efficient thrust through the ball; the manner of backswing, however, whether straight back or circular, is unimportant.

An Efficient Grip

An efficient grip provides for a transfer of power and flexibility from the arm to the racket. Experience dictates certain limitations on the manner of gripping; however, the generally accepted Eastern or Continental grips fall within the "range of effectiveness." Any

grip not including a spread index finger, a wrap-around thumb, or the full palm on the handle probably should be rejected unless it fulfills the criteria above. Most experts favor the Eastern grip, but a player with sufficient strength probably can master the Continental technique. It appears justifiable to advise physically weaker players to move their wrist more behind the handle than the position used by more experienced or functionally stronger players. The almost fanatic concern in recent literature for a grip which does not require a change from forehand to backhand appears indefensible. Seldom indeed does a player encounter difficulty in effecting the change, and even then, it probably does not vindicate an inferior grip for all other stroking.

Emphasis on these essential elements—a thrust through the ball, "tuning in," absence of tension, continual adjustment, early backswing, and an efficient grip—will hasten mastery of tennis stroking and produce the successful shot, the ultimate criteria of good form.

New Tennis Progressions

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Tennis instructors who have become discouraged by the lack of progress in teaching beginning students and frustrated students, will be glad to learn that new devices and new teaching progressions are available which can be of help to them. The new techniques include the handball method, the small wooden paddle, and the short tennis racket, leading up to the regular racket.

A common problem of the beginner is the inability to connect with the ball, and stroke it effectively enough to feel a measure of success. Without early success, many students lose interest in learning to play at all. It is difficult for even the most conscientious teacher to provide the individual instruction necessary to keep students motivated in the usual class of 30 to 50. The handball method and shorter racket help alleviate these discouraging problems.

A player learns to stroke quickly and successfully by using the hand as in handball, because this is a familiar distance for adjustment. As the distance and point of contact for stroking the ball increase, the problems of control, hitting, and adjusting increase simultaneously. It is important to begin with the handball skills to develop the "feeling" for correct movement with emphasis on transfer of weight, bending of the knees, arm and body action, and watching the ball.

As the player progresses to the paddle and/or short racket he quickly realizes that he must stroke through the ball and use more body action. He recognizes that he has greater control with the shorter lever, and this aids in developing the desired stroke.

The progressions have been used successfully in working with elementary through college students. Beginners, regardless of age, will find the progression helpful to them. The system can also be used to correct faulty stroking, by going back through the elementary steps.

A most important note to the teacher is not to rush through the many steps of the progression. Teachers should not feel pressured because the beginner hasn't yet used the regular racket. When the individual develops the skill necessary to handle first the paddle, then the short racket, he will step more naturally into the use of the regular racket.

Some students may never develop enough coordination and skill to progress beyond the short racket. But fewer youngsters will be

discouraged from playing tennis because of inability to use the regular racket. Failures in the past have been due to the desire to get to the big game before basic skills are firmly established. The new tennis progressions, with a solid reliance on fundamental skills, give the student enthusiasm and confidence to move into tennis.

I. FOREHAND DRIVE

Before beginning the actual sequence of instruction, it is helpful to call attention to an important point about the new progression. Large classes may be given instruction in relatively small areas throughout the learning stages of the hand to short racket skills. Instruction for a class of 28 can begin on one court. As instruction progresses to stroking the ball with the short racket, the class can practice on two courts, but there is adequate space even for a larger class on two courts. When class drills are conducted in limited space, the instructor can more readily correct individual stroking errors. How classes can be organized is shown in the photographs with this article.

Self-drop

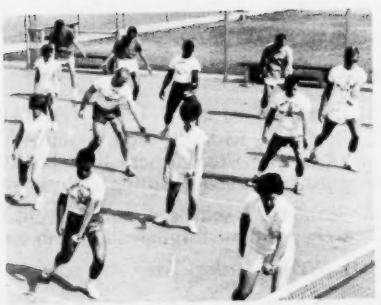
1. Player stands with left side to net.
2. Using the free hand (left), player drops the tennis ball to the left side of the body. Ball is first placed in the palm of the hand, and the palm faces upward. Give a little momentum prior to dropping the ball by lifting the hand 3 or 4 inches upward, then release the ball. The ball must drop directly in front of the left foot (about 18 inches).
3. Player catches ball, with palm facing upward, and checks to see if the ball is in line with the forward (left) foot.

CUE WORDS: *drop, catch, hold, check.* (The instructor should call out the cue words with the correct rhythm, so that students will begin to develop the proper rhythm. Students should learn to call out the cue words also.)

This skill is important because players, when they begin stroking, must know the spot which will become the "point of contact," the spot where the racket meets the ball.

Self-drop and Transfer of Weight

1. Player stands with left side to net.
2. *Transfer of weight.* Take a small step toward net with left foot.
3. *Check* to see if the left knee is relaxed and slightly bent after the weight has been transferred. Player should be able to bounce



on the forward knee if it is not locked. *Check* to see if the ball lands in front of the forward (left) foot.

4. Combine with self-drop. These two skills must be practiced until player is able to do them automatically.

CUE WORDS: *drop, step, catch, hold, check.*

Hand Stroking

1. Player stands with left side to net.
2. Self-drop, transfer of weight, and then catch back side of ball with right hand, that is, catch ball as if attempting to hit it.
3. Players should swing through the ball (catch it en route) and have the hand finish the follow-through at a point about head height.

4. *Check* position of hand at finish and knee position. Did player catch ball in front of left foot?

CUE WORDS: *drop, step, catch, finish, hold, check.*

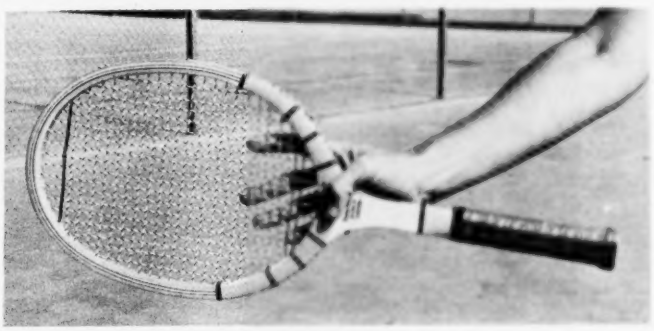
With a Partner

1. Players stand about 18-21 feet apart.
2. Beginning with self-drop, practice hitting the ball with flat hand (firm wrist) to partner. Ball should be hit about chest height to partner. Practice hitting directly to partner.
3. Sequence is self-drop, ball lands in front of left foot, transfer of weight, follow-through and finish stroke, and hold finish position.

CUE WORDS: *drop, step, hit, hold.*

Introduce Paddle and Then Short Racket

1. If a paddle is not available, the hand may be placed on the strings of the short racket with thumb around throat of racket. This position closely resembles hitting with the flat palm of the hand.
2. Self-drop and hit ball to partner 21-25 feet away.
3. Introduce tossing ball to partner, using an underhand toss. As ball bounces up to person hitting, it should not bounce higher than the waist. (It is more desirable to hit a lower oncoming ball to emphasize getting top spin—hitting from low to high.)
4. Variations of practice are
   (a) hitting into fence or specific target, (b) hitting against backboard, and (c) hitting ball over net.



Practice with Short Racket

1. Begin moving the hand down the racket throat as the player demonstrates proficiency in stroking with the shorter leverage. The same emphasis and check points must be considered at each stage of teaching. Do not rush from one step to the next. Players should master each skill and step in progression.

Before introducing footwork patterns or stroking at levels, the backhand drive should be introduced.

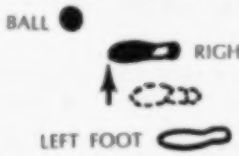
II. BACKHAND DRIVE

Self-drop

1. Players stand with right side to net.
2. Player, using the free hand (left), drops the tennis ball to a position 6 to 12 inches off to the side in front of the right side of the body. Ball is dropped as in the forehand self-drop.
3. Player catches ball (palm facing upward) and *checks* to see if the ball is out in front of the right side.

Self-Drop and Transfer of Weight

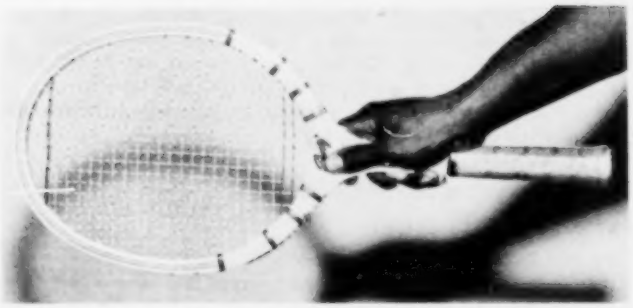
1. Right side to net.
2. *Transfer of weight.* Take a small step toward net with right foot.
3. *Check* to see if the right knee is relaxed and slightly bent. See if the ball dropped 6 to 12 inches in front of right side.
4. Combine self-drop and transfer of weight.



Paddle to Short Racket

1. If a paddle is not available, place thumb on the back side of the strings or upper throat area. This pulls the palm of the hand to the top plate of the racket throat. This position is a good lead-up to the more exacting backhand grip.
2. Self-drop and stroke. *Check* the finish position (hand and racket above head height) and knee position.
(See silhouettes on next page.)

3. Follow forehand drill practice variations above.



Partner Toss

1. Partners stand 18-25 feet apart.
2. Use an underhand toss and keep oncoming toss low.

Stroking Over Net

1. Tosser stands with back to net and hitter stands just behind baseline.

CUE WORDS: *Use same cue words and checking points for all backhand drills as in the forehand skills.*

III. VOLLEY

Forehand Hand Volley

1. Two players stand facing each other (approximately 12 feet apart). Stand in ready position, weight balanced evenly on both feet.
2. Play catch, tossing underhand to each other. The toss should be placed about shoulder height and to the right side of the player who is catching the ball.
3. Person catching ball should follow this sequence: Reach forward with right hand to catch ball, catch, and hold position. Just prior to catching the ball the transfer of weight should be taken (left foot stepping toward net or partner) as ball is caught to the player's right.
4. *Check* whether knee is easy, whether the catching hand maintained firm position after the ball was caught.

Backhand (Hand) Volley

1. Two players face each other as above and toss underhand to each other, to the left side of receiver.
2. From the ready position the player steps with the right foot moving forward for the transfer of weight.
3. Player receiving the toss to the left side of the body about shoulder height must reverse his hand to catch the ball. Although this is a little awkward, it helps players realize they must reach forward to catch the ball and it gives practice to the transfer of weight and body position.
4. Practice this phase briefly. Emphasize reaching for the ball.

Forehand and Backhand Volley with Paddle and Short Racket

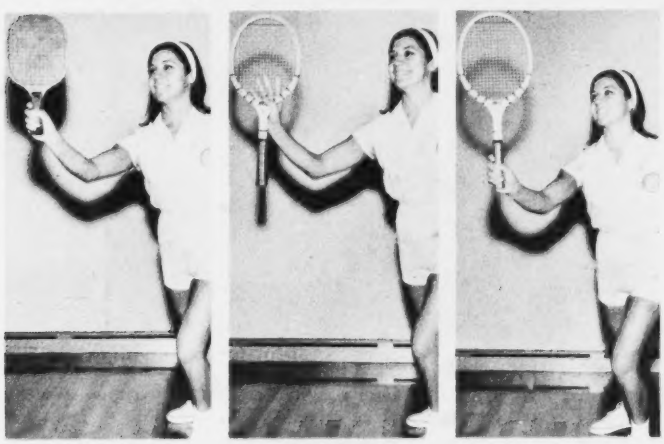
1. Forehand. As soon as players can do the catching and transfer of weight automatically, they are ready to progress to a paddle or short racket. Two players face each other, one tossing and the other hitting. Have person tossing stand with his back to the fence. When using the short racket, follow the steps of placing the hand behind the strings as this closely resembles catching the ball and simplifies the forehand volley.

CUE WORDS: *step, hit, hold, check.*

2. Backhand. Place thumb on back side of racket and use same progression as above. *Check* to see that students go to meet

the ball (reach) and keep their eyes on the ball until it contacts the strings.

CUE WORDS: *step, hit, hold, check.*



IV. SERVE

Hand and Racket Progressions

1. Practice throwing tennis ball overhand to partner. Distance should be great enough to accommodate a good throw. (Throwing against a backboard is excellent practice.) The throwing action (transfer of weight, body rotation, arm and wrist action) is almost identical to a good serve action. Emphasize wrist snap and follow-through.
2. Place tennis ball in left hand (nongrip hand) and practice placing the ball in the air for an accurate toss.
3. During the practice of lifting the ball for an accurate toss, concentrate on reaching for the ball after it leaves the hand. This helps to place the ball with greater accuracy.
4. Combine the two actions without the use of a tennis racket. This helps to concentrate on rhythm and coordination.
5. Practice hitting the tossed ball with the hand.
6. As coordination improves pick up a paddle or short racket and after learning the correct grip, proceed to hit the ball with the

racket. The short racket is especially helpful to the player learning the serve. More detailed information may be given to the student in regard to service specifics as the student performs satisfactorily.

Continue to use the paddle and short racket until a high degree of success is acquired. The adjustment to the long racket is a simple one if the individual can control and use the racket which is 5 inches shorter.

In this progression, no attempt is made to analyze any particular stroke or to acquire perfection in any stroke. The purpose is to enable beginners of any age to gain confidence and basic skills that will make an easy task of their final move into tennis.

The Volley Is for Everyone!

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One of the reasons tennis is more fun today is that everyone learns to volley—or should! The volley stroke, far from being difficult, is actually easy if properly taught. A knowledge of the volley enables the beginner to enjoy herself more in the doubles which is so often her first game experience. Of course, today no advanced player can go far without a good volley in her repertoire.

Although a few instructors teach the volley as the very first stroke, probably more prefer to fit it in after the student has made a reasonable start with groundstrokes and serve. Following its introduction, the volley should receive almost equal time with other strokes.

BASIC VOLLEY

Form

Use of the regular Eastern forehand and backhand grips is preferable, especially for most girls and women who seem to profit particularly from the thumb up position on the backhand. Some instructors suggest the Continental grip, but interestingly enough, Rod Laver, in his *How to Play Championship Tennis*, makes a strong point of how Australians of his era under Harry Hopman were vigorously taught to change grips between forehand and backhand.

The player about to volley should be 6 to 8 feet from the net with the face of the racket vertical and well in front of the body, feet comfortably apart and weight ready for a quick forward movement. Assuming she uses a forehand grip in this ready position, she is prepared for a *forehand volley*. As the ball comes on her right, she steps diagonally toward it on the left foot, head of the racket up, and strives to meet the ball well ahead of her body. The stroke has variously been compared to a "Halt!" or a ball-catching position of the hand. There should be only the shortest of upward backswings and a short, punchy ball contact with little

or no follow-through. The wrist is bent back enough to put the racket at a right angle to the intended flight of the ball.

Sometimes it helps to suggest that the pupil simply raise the head of the racket and pounce on the ball. The volley is basically a chop, but it is not always necessary to explain this to the beginner as it will result naturally if grip and stroke action are correct. It *is* important to watch beginning and intermediate players carefully to see that they do not slip to a Western grip. This is a common problem and highly hazardous, as such a grip will make low forehand shots virtually impossible and can result in all sorts of difficulties with the backhand as well.

On the *backhand volley*, the grip change is made as quickly as possible, and all the general principles noted for the forehand are again applicable. Footwork is reversed just as in groundstrokes, and the all important step-in is made on the right foot. The left hand assists in the backswing and is removed as the racket starts forward. It is well to begin both forehand and backhand volleys in the same lesson, particularly since some players may even find the backhand easier.

Suggested Teaching Techniques

1. Underhand tossing by students; one at net, one tossing; two or more collecting balls. Caution volleyer not to hit hard and tosser to be alert. Encourage tosser to keep ball gentle and somewhat high in the beginning
2. Intermediate or advanced students dropping and hitting gently from mid-court to less skilled players
3. Full length drop-and-hit from base line to volleyer

Progression

1. Forehand
2. Backhand
3. Alternate forehand and backhand
4. Mixture of forehand and backhand
5. Same but with balls lower over net

Coaching Points

1. Stepping in is vital! This means the player can meet the ball ahead of the body while it is still rising and hit a downward, attacking shot; waiting and hitting a falling ball tends to make the player volley up to the advantage of the opponent.

2. The ball must *not* be driven with a long back-swing. While such a shot can be hard hit, it is slow and extremely prone to error.
3. On the forehand it helps a great deal to keep the elbow close to the body, unless it is necessary to extend it far to the side for a wide ball.
4. Low balls are easier if one thinks of simply lowering the basic stroke by bending the knees. Avoid dropping the racket head. Open the face of the racket as far as necessary to raise the ball over the net.
5. When a student must volley a ball hit directly at her, it should be taken with a backhand, since the elbow can then be comfortably drawn to the side and out of the volleyer's way.

Use of the Basic Volley in Doubles

1. Novice
   a. Partner of server stands at net, one or two feet inside alley line. She volleys anything she can reach.
   b. She must maintain a very alert, ready position, both to volley quickly and to protect herself if necessary.
   c. Try to avoid putting a beginning volleyer in a game where an aggressive opponent is likely to "belt" the ball at her. Endless are the numbers of girls who have been made forever "gun-shy" at the net by an unhappy experience at this point in their play.
2. Intermediate
   a. Stress at this level that the net player should begin to move a bit more, especially to cut off soft, slightly high returns.
   b. Emphasize getting reset after making one volley because most novices let down after one hit and are rarely ready for the return.
   c. Point out that one need not be an "alley sticker" in typical girls or women's doubles, since comparatively few good line shots are hit, and the wide alley-line position leaves far too much court for the server to cover on serve-return.
   d. Insist that the net player not move to the middle of the net and stay there, as this leaves two sides open to the opponents and results in a most confused partner.
   e. Explain to the would-be volleyer how to change sides of the court if the ball is lobbed over her toward the back corner. (Most players prefer no cross-over if the lob is toward the center.)

ADVANCED VOLLEY

Form

There is no real change in basic form as the student progresses to more difficult volleying skills. Practice at mid-court (service line) is vital, accompanied by an explanation that "no man's land" has changed in modern tennis. The advanced player will not want to get caught between base line and service line, but she should be able to volley (and half-volley) near the service line as she moves in to a more commanding position closer to net. Obviously it will be necessary to handle far more low volleys, and these should be practiced until the player can largely avoid hitting up. To accomplish this there must be continued stress on good footwork, plus getting in on and down to the ball.

The really *high backhand volley* is one shot which is modified somewhat. On this it is desirable to break the wrist back and drop the racket head slightly in order to come up and over the ball. Again it is important to lean in on the hit. The *drop volley* is a delicate shot demanding natural feel. However, it may be suggested that on this shot the racket face is open, extra underspin is imparted by downward movement of the racket, and the touch is "soft." On a very hardhit ball it may even be necessary to give back with the racket for the desired result.

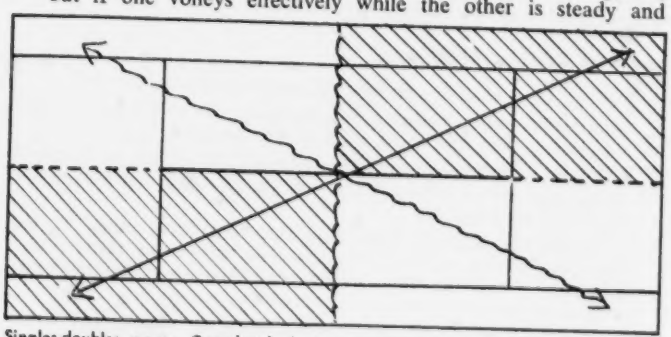
Suggested Teaching Techniques

1. Full hit from base line to volleyer at service line
2. Continuous volley between two players, both at the service line —opposite each other first, then on the diagonal
3. Using three or four players, have two at base line hit on diagonal for several shots, then hit the ball to opposing net player for the diagonal put-away
4. Two players starting diagonally opposite each other at the base line, hitting several ground strokes before one (later both) gradually moves in, half-volleying or volleying as she advances to a close net position for the put-away
5. Same as above, except started with a serve, as follows: (a) serve; (b) move in to service line, pause to get set, volley; (c) advance to closer net position, volley down
6. Singles-doubles game. Doubles practice for two players, played on the diagonal with the use of a drawn or imaginary center line extended from service line to base line. The first point begins with service from the right as usual and then the ball must

be kept in play on that diagonal; each player's right alley is "good" but anything to her left of center is "out." Service may be alternated (play then only in the left court) and regular score kept, or players may elect to practice on one side for several points. Lobs may be permitted or disallowed as players or coach prefer for their particular objectives.

Use of Advanced Volleying in Doubles

1. The big aim in modern doubles is to get to the net, and every effort should be made to achieve this. A player's skill and the game style of the opponents together will dictate how this is done.
2. The player with a deep and well-placed slice serve and a good volley should begin to try coming in behind her serve. If the receiver frequently lobs on return of serve, the server's partner must have a good overhead but can discourage the lob considerably by dropping back to mid-court on the serve.
3. The less skilled volleyer may need to wait until she has hit a deep, forcing groundstroke behind which she can more safely move to net.
4. Ideally, doubles teammates should move up and back together, but if one volleys effectively while the other is steady and strongly prefers the backcourt, much damage can be done with one player back and one at mid-court for the cut-off on a weak return.



Singles-doubles game: Cross-hatched areas are "good" when service and play are in the right court (⟷). Unshaded areas are "good" for points in the left court (⟿).

If the volley has not previously been taught below advanced level, there is a pleasant surprise in observing the ease with which novice players can handle it and the delight they find in their success in practice. As with all strokes in tennis, however, it is much more difficult to get players to use the volley in a game situation. Game-like drills will help, and constant encouragement during regular play will do much to give them the courage to try. Very often novices will promptly retreat to the base line after "goofing" one volley, forgetting that they make errors from the base line too. It helps immeasurably to ask the advanced players to mix occasionally with those less skilled, both to show them the volley in action and to set up some shots where they can actually try it.

Keep in mind that most women are undoubtedly going to play more doubles than singles in their tennis lifetimes. A good volleyer not only has more fun but is appreciated by both male and female partners.

Footwork Practice Is Important

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Recent research in physical education indicates that in many beginning sports classes students do not get enough vigorous activity. One thing that can be done to remedy this is to emphasize footwork in beginning tennis classes.

Getting into position to hit the ball is essential to becoming a good tennis player. Some players move well because of previous training and ability, but most girls need help in learning the most effective way to move to get into position.

Footwork drills can give players more exercise and also improve their ability to hit the ball. Instructors should have players practice the mimetics of forehand and backhand drives and other strokes as they execute footwork drills. This type practice will help players get their strokes grooved.

BASIC FOOTWORK

When teaching forehand and backhand drives, teachers should stress how to wait for the ball (stance) and how to turn sideways to hit the ball (pivot). Girls seem to have difficulty bending their knees in the ready position and in turning sideways. The following are pointers to give to students on the stance and the pivot.

Stance or Ready Position

Face the net with the feet spread at approximately shoulder width, the knees slightly bent, and the weight slightly forward on the balls of the feet. Hold the racket throat lightly with the left hand and hold the racket handle with the right hand in the correct forehand grip. Hold the racket at waist level so that it is parallel to the net. It should be comfortably in front of and slightly away from the body.

Pivot

Assume the ready position. For the forehand, turn on the right foot until it is parallel to the base line. Swing the left foot forward and take a sideways stance. The left foot should be pointed toward the net post rather than parallel with the right foot. As the weight goes to the back (right) foot, the racket should be

taken back. The player should step forward with the left foot and transfer the weight as the racket is swung toward the ball.

The backhand pivot should be executed in the same manner except that the pivot is taken on the left foot and the step forward is taken with the right foot.

When the students understand how to wait for the ball and how to pivot for forehands and backhands, commands can be given to provide practice in pivoting and swinging. For a forehand drive, say, "forehand pivot, and swing," or "backhand pivot, and swing." Students should assume "ready position" while waiting for the cues.

FOOTWORK PATTERNS

Footwork patterns can be utilized in instructing the players how to get into position to hit different shots. In teaching the patterns it helps the students if the teacher explains and demonstrates, then does them with the class a few times. The teacher may use verbal cues as the students are watched doing the various patterns. Space the students more than a racket length apart so they have room to move freely. Left-handed players can execute backhands while right-handed players are executing forehands and vice versa. By using this technique the explanations are the same and students will not run into each other. All footwork patterns are started from the "ready position" with the player facing the net.

Developing agility, pivoting, and changing directions

1. For a forehead, step forward with the left foot to the 1, 2, or 3 o'clock positions. On the backhand step forward with the right foot to the 9, 10, or 11 o'clock positions. Call out the footwork patterns and swings the player is to execute.
2. These can also be done while running in place.

Moving forward a short distance to hit a forehand and backhand drive

Rather than merely to reach with the racket for a ball that is a short distance away, it helps to move up to the ball so the player can meet the ball at approximately waist height and can maintain balance and control.

1. To move forward for a forehand always pivot on the right foot and start forward with the left. Take a slide-step forward leading with the left foot. Take the backswing as the pivot is started.
2. For a backhand, pivot on the left foot and start forward with the right. Take a slide step forward leading with the right foot.

Moving away from a ball that is too close

On a forehand if the ball is too close to the body, the player tends to take a cramped swing or use too much wrist in hitting the shot. On the backhand the player tends to bend the elbow and poke at the ball. Teaching players how to move away from balls that are too close will enable them to improve their swing and control.

1. On the forehand, step back toward the left side line with the right foot, then step toward the net with the left foot. Start the backswing as the step back is taken.
2. On the backhand, take a step toward the right side line with the left foot, and take a step toward the net with the right.

Running forward to hit a ball that bounces short in the corner of the fore court

When having to run several steps forward to hit a ball, it is important that the player begin running and taking the racket back as soon as the ball leaves the opponent's racket. The player should take small steps and turn sideways to the net just before contacting the ball. This helps to maintain balance and control as the ball is contacted and to get ready for the next shot. The player should step forward into the ball with the front foot just as on any shot.

1. To run forward several steps for a forehand, run diagonally forward starting with the left foot. Start the backswing while running. On the command "get set," turn sideways to the net with the racket back, step into the ball, and hit through it.
2. To run forward several steps to hit a backhand, start on the right foot and run diagonally forward, taking the backswing while running. On the command "get set," turn sideways to the net with the racket back, step into the ball, and hit through it.

Running back toward the fence to hit a ball that bounces deep in the corner of the court

When moving back beyond the base line to return a ball, it is important that the player turn sideways and get the racket back quickly. Unless the player is an advanced player, she should try to move far enough back to meet the ball as near waist height as possible.

1. To run back for a ball that is bouncing deep in the right hand corner of the court, turn toward the right hand corner of the fence. Start back on the right foot, run, "get set," swing.
2. To run back for a ball that is bouncing deep in the left hand corner of the court, turn toward the left hand corner of the fence. Start back on the left foot, run, "get set," swing.

Moving several steps to hit a ball, then moving back to home position

Girls often will move into no man's land near the service court line to hit a ball and will stand there until the opponent returns the ball. What they should do is follow their shot toward the net or return to home position in the center of the court two or three feet behind the base line.

To give players practice in moving back to home position and to make them aware of the importance of doing so, the following pattern can be used. Players stand facing the net behind the base line or an imaginary net and base line. Call out a previous command, and have them return to home position; then give another command, followed by another return to home position. As the player moves back toward the base line, she should turn toward the center of the court, looking over her shoulder to keep her eye on the ball. When she gets back behind the base line, have her take a small hop to the ready position.

Hitting a low bouncing ball

Girls in general do not bend the knees enough in getting down to a low bouncing ball. Often they bend only from the waist or merely lower the racket head in swinging. It is important that players bend from the waist and knees in getting the trunk down closer to the ball. Patterns above may be used. Have the players take a long step forward with the front foot, bending the knees as they step into the ball.

After students have had group instruction in footwork for forehand and backhand drives, the students can be paired. One student can toss and the other can be the hitter. The tosser can throw balls that are too close or too far away from the partner so the partner will have to move forward or back to hit. All of these patterns may be practiced indoors as well as outdoors.

Through this type of practice, players will learn that tennis is an active game, and they will learn how to get into position to hit the ball. Warm-ups using these and other footwork patterns will not only help classes develop better footwork but will provide exercise that students often do not get in tennis classes.

strategy

Tennis Doubles

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In the past half century many excellent articles have been written on how to play tennis. Why then haven't more really great players been developed in the past decade as a result of all this available information and instruction? More people are playing tennis today than ever before but champions worthy of the name are few and far between.

Developing Champions

Tennis is a game of skill. Competitive tennis in the upper echelon requires more than technical ability; it requires proper attitudes. Perhaps it is the psychological element that makes a champion, that makes it possible for one to understand oneself, one's partners, and opponents. Over-estimation of technical skill is not uncommon today. It is true that one must be able to control the basic fundamentals to win, but for a player to become a great champion, technical mastery must be accompanied by proper attitudes and reactions. Some of these attitudes are consideration for one's partners and opponents, unselfishness, respect for other people's feelings, close concentration, match courage, and the ability to keep simple situations simple (not to do it the hard way). Dazzling net work, superb returns of service, greased lightning court covering go hand in hand with mental fitness. That they are interdependent is proven by the impairment of judgment one experiences when overcome by physical exhaustion. Be fit, mentally and physically, and you will thoroughly enjoy playing tennis, as will your partners and opponents. Here, then, are a few tips to enliven your doubles game.

The Art of Doubles Play

Simply, doubles play is the science of consolidating the net position, volleying your opponents into trouble, then making the winning shot. In actual play or competition you seldom stop to think why you are doing this or that; it is about 90 percent instinctive. We are all creatures of habit and learning to play tennis is largely

a matter of forming the correct habits of play and cultivating the right reflexes. Conscious effort in stroking is a hindrance to play. In competition your mind is turned toward strategy, a clear plan of campaign. Tennis doubles is a game of patience, finesse, craftiness, and headwork, rather than of sheer force and speed. You want to be aggressive yet reliable, meet your opponents' attack and turn it against them. The more you play the tandem game, the more you will understand and enjoy it.

You need not be a good singles player to be good in doubles. In fact, some outstanding singles players cannot quite master the art of doubles; others excel on the doubles court too, combining their stroking ability and brilliance with the added imagination, subtlety, quick thinking, and knowledge of the theory of angles needed to play doubles. To achieve the best results teams should play together consistently. There is no substitute for good teamwork, an unspoken understanding of what the other will do under certain conditions or circumstances. This can be accomplished only by the experience of playing together regularly.

Serving

Good, strong, consistent serving is perhaps the most important part of the doubles game. It puts the ball into play; it should, and usually does, give the server the offensive net position first. The first service is very important because of the psychological effect it has upon your opponent. Do not try for too many service aces as this too often brings into play a weaker, less offensive second service. Rather, concentrate on a three-quarter pace serve, deep to either corner usually, and a speedy follow-up to the net. If you find you are not getting in to net fast enough to volley aggressively, you are serving too hard and flat; use more spin, which will be just as effective and will give you more time to reach the desired volleying position.

Receiving Serve

Good team strategy concerning position play makes it imperative for both players to remain side by side most of the time. Today the favorite beginning position for receiving serve is "one up and one back," that is, the receiver's partner stands forward, usually slightly within her own service box, although this can vary according to the severity of service and the ability of the receiver. However, in so doing, the player receiving serve must follow her return to the net, thus eliminating the possibility of an angled volley being put away between them. For beginners and even most inter-

mediate players, it is best for the receiver's partner to stand just slightly inside the baseline (the receiver standing near the baseline), so that she will be in a position to go in with her partner if she makes an offensive return, or stay back when necessary, until the team finds an opportunity to gain the attacking position together. This takes unnecessary pressure off the receiver and results in more interesting points with longer rallies. After this formation becomes second nature to you, try the more advanced plan, practiced by seasoned tournament competitors. Even they sometimes find it advisable to stand back on an opponent's stronger first serve, moving up to the forward net position only on the second serve, when their partner has a better chance of making a good return.

Returning Serve

Be sure to return serve! Variety and change of pace are of the utmost importance. Seldom try to "drive through" your opponents; wait for your opening, then go for it. Ideally your return of service should land low and slow at the feet of the incoming server. This can be accomplished by hitting sharp cross-court angles with plenty of spin, by chipping your return, or by drives that dip down soon after crossing the net. However, you should continually vary this with a well-placed lob over the net player's head, or a drive down the alley or middle of the court.

The lob is too often thought of as a defensive shot. Actually, the attacking lob can be one of the most aggressive shots in doubles. Its effect in breaking up team coordination is probably more important than any other type of shot in doubles play. Make your lob a deep "going away" shot, just high enough to prevent the net player from smashing it in the air—force her to move back from the net and take the ball off the ground. If you are drawn out of court by a wide service, a lob down the alley can be very effective, especially from the right court as it will be on the net player's weaker backhand side (providing she is right-handed).

Volleying

There are several different kinds of volleys; the sharp, crisp, hard-punched volley, the block volley, the drop volley, and the surprise lob volley. Few players are proficient at all, but champions must have command of at least two. You will seldom go wrong if you volley rather consistently deep down the middle. It cuts down your volleying errors, and often sets up a weak return which you can angle or smash away for an outright winner. Use little skips and steps at the net to quickly move your body into a good volleying position.

Signals

Although a few good competitive doubles teams have successfully employed the use of signals or trick formations (such as both server and partner standing on the same side of the court), I doubt if any of the world's outstanding championship combinations have ever used them. Successful poaching is linked to instinct, quick reflexes, and anticipation, not especially to a pre-planned set of signals. Unbroken concentration, so vital in match play, is difficult enough to retain without unnecessary interruptions. Command of the simple basic fundamentals, performed with monotonous regularity to your opponents, will win you many more matches than secret signals or trick formations.

Learning By Watching

Intelligent studying of good doubles teams in action can be most helpful in learning doubles techniques. Don't watch the ball; do concentrate on the coordinated movements of the players on only one side of the net. Watch one particular thing at a time: their footwork, racket handling, court position, how they attack or defend, work together, etc. This is constructive watching and can be invaluable in improving your own game (singles as well as doubles, for that matter). Tennis doubles is an intriguing, fascinating game that you too can enjoy.

Intermediate-Advanced Strategy and Techniques

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Many intermediate and advanced tennis players handicap themselves greatly when basic principles of strategy and technique are not applied in their games. The importance of teaching strategy concurrently with technique cannot be overemphasized if players are to achieve their maximum potential. Too often strategy is minimized, neglected, or left to chance.

APPROACH SHOTS *

Basic Theory of Approach Shots

There are two strategic elements to keep in mind when making the approach shot: protecting oneself and putting the opponent on the defensive. The player wants to place the opponent in a precarious position yet avoid leaving an exposed court. She should concentrate on hitting down the closest sideline. There is more court area to hit into on a down-the-line shot than would be the case if a short cross-court shot were used when coming to the net, and just as important from the theoretical standpoint, the player's own court is still reasonably protected.

Another point to consider is the force of the approach shot. The keynote is placement, not power. The player should not feel that she has to hit the ball with extreme force since the approach is not so much a winning shot as it is the setup for a winning shot.

Approach Shot Techniques

Grip

The forehand approach grip should be the same as for the forehand drive (Eastern). The backhand approach grip should be the same as for the bankhand drive (Eastern).

* All comments are directed to the right handed player.

a.

b.

Figure 1. Backhand Approach

Approach

1. The player's shoulders should be parallel to the sideline as the approach shot is hit (Figure 1, d).
2. The ball should be hit from an open stance with the weight on the right foot for the forehand approach and the weight on the left foot for the backhand approach (Figure 1, e). One should make contact with the ball in front of the back foot while in an open stance (Figure 1, f). Hitting the ball with the weight on the back foot enables the player to move forward into the net position more rapidly. The player will also be in a better position to hit the volley.

c.

3. A very short backswing should be used on approach shots.

d.

e.

f.

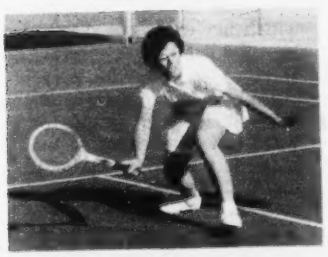
g.

Basic Theory of Volleys

Because many experts believe that tennis is a game of strategy rather than strength, it is felt that the first volley after approaching the net usually should *not* be a "put-away" shot. When considered as such, it is very often missed. The first volley should be hit deep (down the line) in order to establish a good net position. (Another school of thought purports that a *center-court* shot achieves the same advantage.) The objective is to keep the opponent on the defensive while waiting for the weak return. At this point the

player must decide if the down-the-line or the center-court shot will place her opponent at the greater disadvantage, and the patient player is aware that percentages will be in her favor under these circumstances. By hitting the volley down the line, the player is already in a good position to cover her own court; all she has to do is move forward. Also, if her opponent is to hit the ball cross-court, she must hit it very early. This is unlikely if the volleyer hits a forcing shot. The odds are that the return will be hit down the line.

Figure 2.
Forehand Volley



a.

b.

c.

Almost the only safe time for a player to hit cross-court from the forecourt area is when she is confronted with a high volley which can be "put away," or when she finds that the opponent is so far out of position she cannot possibly get to the ball.

Volley Techniques

Grip*

Basically, the grip is the same for hitting both forehand and backhand volleys (a modified Continental or Eastern backhand).

Offensive Volleys

1. The volley should be a "punch" shot — no backswing, no follow-through.
2. The player should contact the ball well in front of the body as she moves toward the net (Figure 2, c). This

* It is the opinion of the authors that the modified Continental or Eastern backhand grip is the most effective grip for volleying, although many tennis professionals do advocate changing to the forehand and backhand grips.

d.

e.

reduces the margin of error because the ball is hit closer to the net and gives the volleyer a better angle. It also decreases the court area into which her opponent may return the ball.

3. If there is time, the player should turn her side to the net and shift her weight forward toward the net so that maximum force is applied to the ball at the moment of contact.
4. Forehand volleys should be hit off the left foot (Figure 2, c), while backhand volleys should be hit off the right foot.

Defensive Volleys

1. The volleyer should bend the knees and get down low (Figure 2, b).
2. Since the ball will probably be lower than the net, it will have to be undercut. The player should not try to make a winner out of this shot.
3. Any shot that is hit directly toward the player should be returned with the backhand volley because it allows for a more natural body position. (It is extremely awkward to place the head of the racket in front of the body if the forehand is used.)

OVERHEADS

Proper positioning is one of the most important factors in hitting an effective overhead shot. The easiest way to move backward is by short slides. While moving, bring the racket back and turn the left side to the net (Figure 3, d and e). Simulate the serve as much as possible since this is easier than learning a completely different stroke.

A good way to judge the best position for hitting the ball is by pointing to the ball with the left hand while getting into position (Figure 3, f). Many errors are caused by letting the ball get too far behind the body.

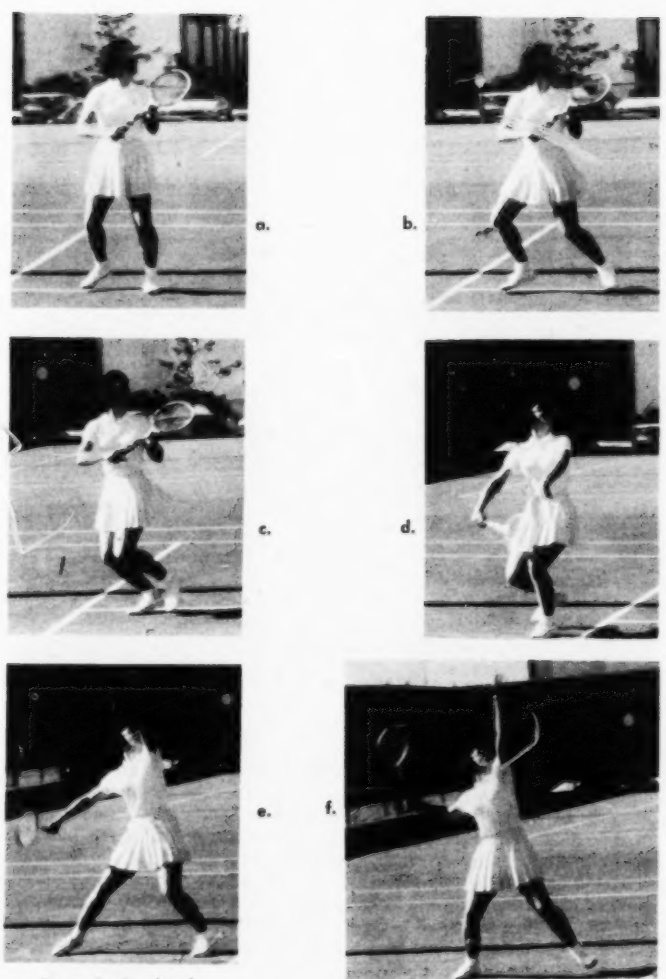
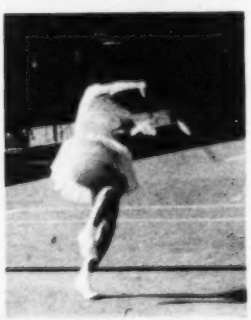


Figure 3. Overhead

g.

h.



i.

j.

It is a good idea to aim the overhead to the backhand area of the court. Quite often an overhead hit to the forehand court lands wide because of the natural tendency to slice across the ball when hitting in that direction. Knowing ahead of time where to hit the ball will also eliminate many errors caused by indecision.

If the lob coming toward one is fairly short and may fall in the forecourt, the ball should be put away. On a deep lob, it is to the player's advantage to try for good placement and *not* try to win the point outright since the deep, well placed lob is very difficult to convert into an outright winner.

LOBS

Basically there are two types of lobs—the offensive and the defensive. The former is a lower, attacking type of shot that is just high enough to clear the opponent's racket but which will not give her much time to recover the shot. This shot is hit with top spin to give more control. The defensive lob is used when the player is out of position and needs time to regain her court position. If the ball is lobbed down the line, the opponent has less time to get to the ball. The reverse is true for the cross-court lob. It is to a player's advantage to master the lob because many women and girls have weak overheads.

ADDITIONAL COMMENTS

1. Know ahead of time what to do with the ball. This eliminates many errors and aids concentration.
2. When practicing, a player should work on the strokes she does not use frequently. Merely playing regular games will not give the player enough practice in improving otherwise weak strokes.
3. Don't attempt the "perfect shot"—more often than not this player ends up beating herself.

A player is never too young or too much of a beginner to be taught strategy. Why wait until the mechanics of tennis have been "mastered" before learning how to play an opponent?

Hewitt's Tennis Achievement Test

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A frequent complaint made by teachers of tennis is that achievement tests in this sport are lacking. Most tennis classes in high schools and universities have mixed student ability levels ranging from the beginner to the advanced student who demonstrates his tennis strokes proficiently. Good teachers know that learning can be considerably enhanced if students with similar ability levels practice and play together.

Backboard tests that roughly classify tennis students at the beginning of a semester are employed by many teachers. Dyer, the pioneer in this field, reported on her first backboard test in 1935 (2). She revised this test in 1938 (3) with the addition of a 5-foot restraining line from the back wall. Hewitt (4) experimented with the Dyer backboard tennis test at the University of California, Riverside, and found that by adding a 20-foot restraining line, the discriminatory ability of the test at the beginner and advanced levels was improved. Many schools where tennis is taught do not possess a wall or a tennis backboard and all testing has to be accomplished on the court.

The teacher has a need to evaluate tennis skills objectively to determine students' strengths and weaknesses in the serve, the forehand and backhand drive, etc. How are instructors to grade the student on improvement and the ability to perform basic skills in tennis on a scale from A to F?

HEWITT'S TENNIS ACHIEVEMENT TEST

A. Preparation of the court

1. Marking the court

   For the forehand and backhand drive tests, one half of an official tennis court is marked off. (See Figure 1.) Four areas or zones 4 ft. 6 in. each are marked off starting at the baseline. Draw chalk lines across court at these distances and for the first zone from the baseline insert a large number 5 on the line

(4 ft. 6 in. from the baseline). For the next zone, which is 4 ft. 6 in. or 9 ft. from the baseline, draw a chalk line across the court and insert a large number 4 on the line. Follow the same procedure for line three which is again 4 ft. 6 in. and insert a large number 3 on the line. Use the already established service line and label the line with a large 2. The whole forecourt becomes zone 1.

2. Restraining line
   Install a 7′ x 2″ x 2″ wood pole at each net post. String a one-quarter inch rope between poles at the 7 ft. height above the net.

B. Equipment for tests

1. One grocery basket
2. Three dozen new tennis balls—heavy duty
3. Two tennis rackets
4. Clip board and lined score sheet
5. Pencil with eraser

C. Subjects

Three groups were used for the test during the spring semester, 1964, University of California, Riverside.

1. Sixteen varsity and junior varsity tennis players (all men).
2. Thirty-six advanced tennis students (men and women) taking advanced tennis for credit. This group was made up of two classes of 18 students each. (Advanced students in tennis had more than one semester of beginning tennis.)
3. Ninety-one beginners (men and women) taking elementary tennis instruction for credit. There were five classes at the beginners' level.

D. The test for forehand and backhand

1. All groups are given a demonstration of the tests to be taken.
2. A 10-min. warm-up period is provided each student on another court prior to testing.
3. Student stands at the intersection of baseline at X while the instructor with basket of tennis balls places himself across the net at the intersection of the center service line and service line.
4. The instructor (using tennis racket) hits five practice balls to the student just beyond the service court. The student moves into proper position for the forehand, and drives the ball over the net into the zoned areas to score points. The student tries to

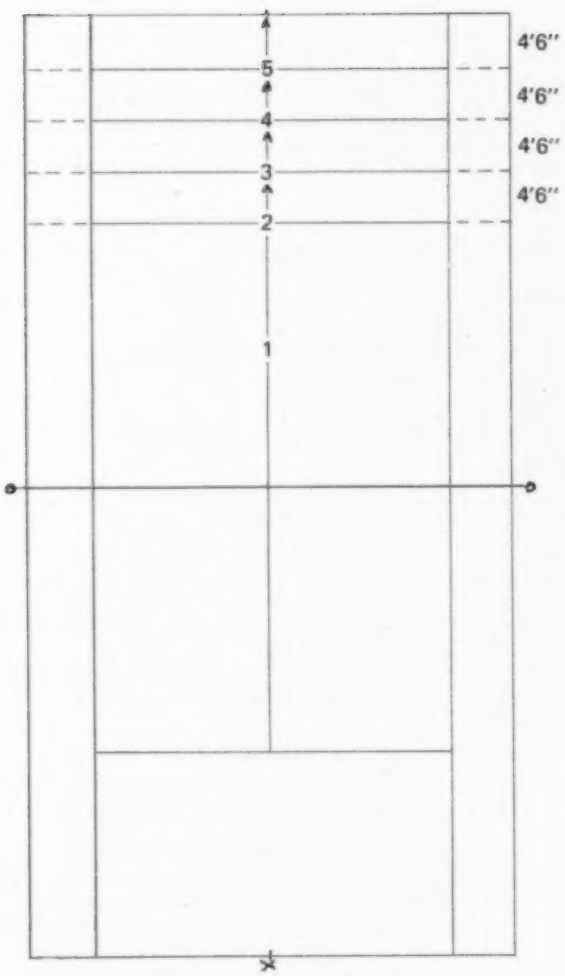

Figure 1. Forehand and backhand drives

drive the ball as near the baseline as possible to obtain higher points.

5. Ten trails each are given, and the student chooses any ten balls to return on the forehand and the backhand.

   Note: It is important that the same instructor hit all balls to the students in order to standardize the procedure. (If a school possesses an automatic ball-throwing machine, this can be used most effectively.) The machine was not used in this study because the majority of schools teaching tennis do not own this expensive equipment.

E. Scoring the forehand and backhand drives

1. A student records all scores in proper places on the score sheet for each of the 10 forehand and ten backhand drives going over the net and under the restraining rope. These scores will be for the number zones marked on the lines for their respective spaces—5, 4, 3, 2, and 1.
2. Balls hit over the 7-ft. restraining rope and into the scoring zones score one-half the regular value.
3. Balls hitting into net label N (net) = 0 score.
4. Balls going over the baseline label O (out) = 0 score.
5. Balls going wide of sidelines label W (wide) = 0 score.
6. All net balls repeated.

II. SERVICE TEST

A. Placement of serve in the right service court

1. Preparation of the court
   a. Marking the right service court
      1. Measure off 3 ft. down the center service line and 1 ft., 6 in., over on the service line. Close in the box with chalk. Insert number 6 in the center of the three foot line.
      2. Below zone 6 measure off another 3 ft. down the center service line and 1 ft., 6 in. over into the service court. Close in the box with chalk lines. Put number 5 on the line. (See Figure 2.)
      3. Measure off a line 1 ft., 6 in. on the service line from zone 6 and 3 ft. down in service court. Close in the box with chalk lines. Put large number 4 on the line.
      4. Below zone 4, measure off 3 ft. down into the service court. Close in the box with chalk lines. Insert number 3 on the line.

5. The remaining top of the right service court, 10'6" x 6' is zone 2.
6. Zone 1 is the remainder of the right service court.

Note: The highest value of six points is given for the area closest to the center service line, since for a right-handed opponent this

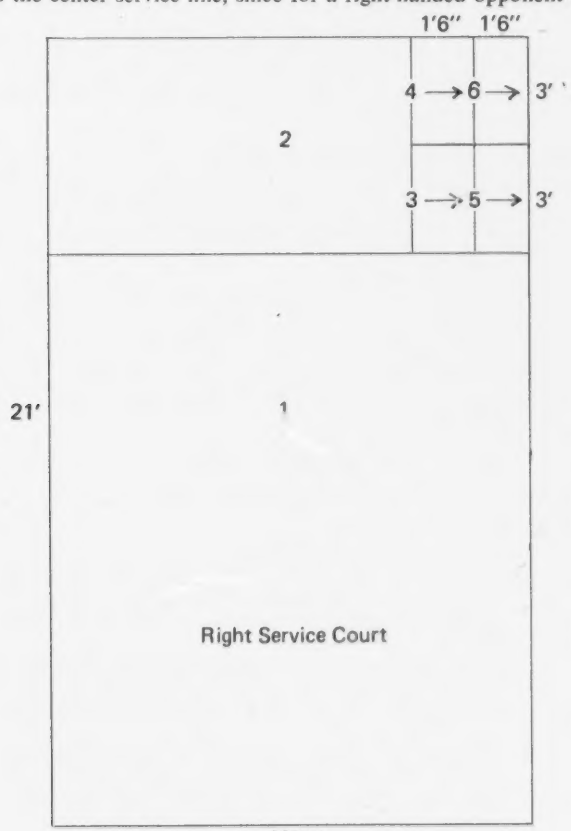

Figure 2. Service test

area would be to his backhand. Lesser values are given for hits in the area further away from the center of the service target. Numbers are inserted on the lines rather than in the spaces to provide a better target. Numbers on the lines represent both the line and spaces to right of the number.

b. Restraining line

1. Install a 7′ x 2″ x 2″ wood pole at each net post. String a one-quarter inch rope between poles at the 7-ft height above the net.

c. Subjects used in service test were the same as used in the forehand and backhand tests.

d. Equipment for service test

1. Grocery basket of tennis balls. Use three dozen new heavy duty balls.
2. Tennis racket for student
3. Clip board and score sheet
4. Pencil with eraser

e. The service test

1. Instructor demonstrates service test
2. Ten minute warm-up allowed before test on another court.
3. Student starts test at right of center line and behind baseline at X. (See Figure 2.)
4. Student serves ten balls into the right service court target area for placements.

B. Speed of service

Note: After considerable experimentation with a stop watch attempting to measure the speed of the serve, it was found that the distance the ball bounces after it hits the service court is a good indicator of the speed of the serve.

The distances the served ball bounc for different levels of tennis ability are:

Beginners: Beginners generally do not serve their balls beyond the baseline on the second bounce. Zone I for this group is the entire backcourt.

Advanced: Advanced players generally serve their balls harder than the beginners, and the majority of them hit their balls on the second bounce into an area ten feet beyond the baseline. This area is Zone 2.

Junior Varsity: A few advanced students and junior varsity group hit their served ball on the second bounce into an area between ten and twenty feet beyond the baseline. This area is Zone 3.

Varsity: Varsity team members hit their served balls the hardest or bounced the served ball 20 ft. beyond the baseline. On most tennis courts this limit is the fence and this area is called Zone 4.

Note: Type of serve such as slice, straight overhead, American twist, etc., had little effect on the distance the served ball bounces. The bounce of the serve is more related to the experience and ability of the player—for example, a varsity player could hit the fence on the second bounce when serving a slice serve.

1. Scoring the serve
   a. Placement of the serve

      For every ball hit over the net and under the 7-ft. restraining line, the serve is scored on the basis of the target area hit. Since the numbers are on the lines, score all hits for their appropriate lines and their adjacent spaces to the right of each number.

      1. Score as 6, 5, 4, 3, 2, 1 placement for each of the ten balls served.
      2. Balls hitting out of the service court label as L (long) = 0 score.
      3. Balls served out of the service court wide label as W (wide) = 0 score.
      4. Net balls are repeated.
      5. Served balls going over the restraining line label as H (high) = 0 score.

   b. Speed of serve or distance the served ball bounces to the second bounce.

      For each of the ten good serve placements, score the distance the served ball bounces into the respective zones:

      1. Zone 1: Backcourt area to baseline—score one point.
      2. Zone 2: Area ten feet beyond the baseline—score two points.
      3. Zone 3: Area ten to twenty feet beyond the baseline—score three points.
      4. Zone 4: The area 20 ft. beyond the baseline or the fence in most instances—score four points.

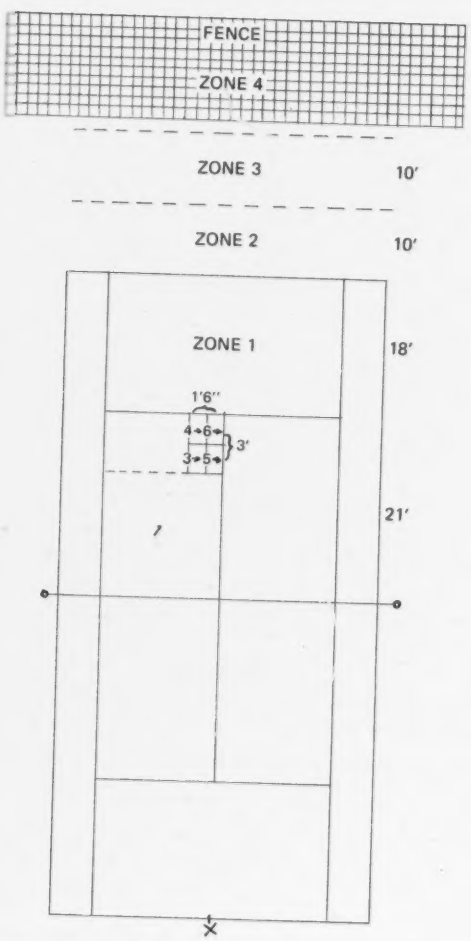

Figure 3. Speed of service—distance serve bounces

HEWITT TENNIS ACHIEVEMENT SCALES NORMS

Grade	Service placements	Service speed	Forehand placements	Backhand placements
	Junior varsity and varsity tennis			
	(16 cases—5 S. D.)			
F	20 – 24	20 – 22	25 – 28	20 – 23
D	25 – 29	23 – 25	29 – 32	24 – 27
C	30 – 39	26 – 32	33 – 39	28 – 34
B	40 – 45	33 – 36	40 – 45	35 – 40
A	46 – 50	37 – 40	46 – 50	41 – 47
	Advanced tennis			
	(36 cases—5 S. D.)			
F	11 – 14	8 – 9	24 – 25	22 – 26
D	15 – 19	11 – 13	26 – 29	27 – 30
C	20 – 30	14 – 21	30 – 39	31 – 37
B	31 – 37	22 – 25	40 – 44	38 – 42
A	38 – 44	26 – 30	45 – 48	43 – 46
	Beginning tennis			
	(91 cases—5 S. D.)			
F	1 – 2	1 – 3	1 – 3	1 – 2
D	3 – 6	4 – 7	4 – 8	3 – 7
C	7 – 16	8 – 13	9 – 21	8 – 19
B	17 – 21	14 – 17	22 – 28	20 – 26
A	22 – 26	18 – 21	29 – 36	27 – 34

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teaching aids

Teaching Tennis at the Bangboard

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When I first saw a tennis match, I very much wanted to learn to play. Since tennis courts and opponents were scarce, most of my practice was hitting a ball against a wall or volleying with a brother over the gravel walks. I learned to keep the ball in play in our barn and made a definite pattern of the play . . . a specified number of forehands or backhands without missing. I won my first tennis tournament after three months of practice, with only a few games on a court. For the last 20 years I have used my two-car garage for teaching tennis. I feel that the basic foundations of tennis—strokes, footwork, and rhythm—can be better and more quickly taught at the bangboard than anywhere else.

Practice with Ball

One of the most pleasant pastimes for a child is playing with a ball, and that makes "playing ball" a foundation for her tennis game. Good footwork, rhythm of moving the body, training the eyes, and judging the flight and bounce of the ball start with the youngster's first experience with a ball, and at an early age, a child can adapt her body to a short-handled racket and learn to hit a ball with it. The most ideal place to practice is in an enclosed squash court or garage. This space is available for play in any kind of weather, and the balls do not get lost. The distances are short, and children do not get discouraged chasing balls. I wish all houses were designed to have a "bangboard garage" with good lighting and windows well placed. Children always need amusement on a rainy afternoon, and how convenient it would be to have a place to practice tennis in bad weather.

Accurate demonstration by a teacher of the basic shots (forehand, backhand, volley, half-volley, and serve) gives the child a real idea of the rhythm of hitting. In a very short time the earnest pupil will establish a goal for practice and will realize the need for quick reactions and undivided attention. For purposes of demonstration the teacher should hit the ball at a speed which enables the pupil to

be ready for the return shot. In a relatively small space it is easy to teach a child to hit with rhythm to a definite target area. From this experience the child builds for distance, direction, and speed.

The short-handled racket makes it easier for a youngster to keep her balance, so she will not have to cross her feet to keep from falling. She should toss the ball up to hit and *not bounce* it in starting a rally. Why? This is the first step in learning to hit the ball away from and opposite the body. No youngster should be taught to stroke as Helen Wills, Althea Gibson, Dennis Ralston, or Pancho Gonzales do now, but as they did as beginners. A child crawls before she walks and walks before she runs.

Teach in Groups

Five or six children in a group learn more in an hour than one or two. They get less restless, learn by imitation and observation, and enjoy the companionship between turns. There must always be a definite pattern to give the child an idea of objectives and a realization of her progress. Children should be given turns and a specified number of shots. Each miss can be a letter, and after the loser spells b-e-a-r or d-o-n-k-e-y, she takes her place on the bench with the other bears or donkeys. The winner is rewarded with a longer turn. Children enjoy playing this kind of game, and it keeps their attention.

They should be taught to stand alert, arms up, with racket throat resting in the left hand, and right hand in short-handled position. In executing both forehand and backhand strokes, the rhythm of tossing the racket at the ball can be counted in this way:

One—Step diagonally back with right foot and bend that knee, as if getting ready to spring and throw the racket at the ball.

Two—Get racket up, out, and back, in line with feet and shoulders. *Wait . . . and pause* with weight on rear foot.

Three—Shift weight to forward foot and hit ball opposite the body.

The teacher should hit every other shot with the beginner. Naturally this gives the novice more time to get ready for her next shot—and she needs that extra time for the first few lessons. After the pupil progresses to the point that she can get her racket back and up immediately, she should hit her own return shots. The teacher can then retire to the sideline to observe and to offer constructive criticism.

Tips for Students

1. Be alert, attentive, with racket resting in left hand between thumb and first finger.

2. Start ball by tossing it up to hit, *not* bouncing it.
3. Watch the teacher or another player rather than the ball—except when you are playing it. You can learn much by observation.
4. Always have feet in a diagonal position with the racket up and out in time to hit the ball opposite your body.
5. Return racket to rest between left thumb and first finger immediately after each shot, in order to be ready for the next shot.
6. For fast ball returns, get the racket back and the body into position more quickly. Don't hit the ball too hard since it already has momentum.
7. Practice throwing and catching ball often with perfect balance. This will help you develop an easy manner of movement.
8. Skip around with shoulders relaxed.
9. Variation is the spice of tennis, but a strong basic foundation is the backbone of your game. Big buildings always take firm, better foundations.

Instructional Aids for Tennis

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Instructional aids are not new to the teaching profession; neither are they foreign to the physical educator who is concerned with developing facilities in order to train the student in the best possible way. The discreet use of these devices not only simplifies and improves instruction but will, in many instances, make it possible for the teacher to expand somewhat limited space. Tennis instructional aids, or training devices, have been promoted on the basis that they (1) provide maximum teacher effectiveness; (2) simplify individual and group teaching; (3) accelerate the development of individual skills; (4) eliminate time lost through ball chasing in the early stages of instruction; (5) may be used exclusive of class time, and (6) make it possible to practice and teach independent of weather conditions or lack of courts. Like most training aids, they may be purchased from private manufacturers or constructed by students or teachers.

The following paragraphs present a few of the more popular tennis aids, with a short description of their importance in the program, their use by the instructor and students, and instructions for the construction of each. Keep in mind that these have a place in the instructional program. Used alone or for prolonged periods, however, they may hinder rather than help the student. Remember, too, that these aids, like other athletic equipment, require a certain amount of maintenance and periodic replacement.

Stroke Developer

The stroke developer, originated by Tom Stow, currently at Silverado Country Club in California, consists of three main components. These are (1) the overhead support, (2) the ball-and-cord unit, and (3) the base. The ball is adjustable in height and when hit feels very much like a normal tennis ball. With proper instruction, the student using the unit can practice both ground strokes and volleys from a number of starting positions. For the teacher with large classes and limited space it becomes a means of involving more students in active practice, eliminating a large amount of standing around and waiting for a turn.

Other advantages of the unit are that it

1. Allows the student to practice a given stroke again and again until mastered without worrying about timing;

2. Provides the novice with a quick method of feeling how to hit the ball correctly;
3. Provides faster learning for the student because he practices a precise stroke;
4. Gives advanced players an opportunity to correct errors as well as to practice footwork and strokes;
5. Makes demonstrations, explanations, and corrections easy to give on the spot.

Combined with footwork guides and visual cues, the stroke developer becomes an excellent teaching station. The footprints place the student in approximate positions for each stroke. (There is a natural adjustment due to individual differences.) The visual cues serve to remind the student to "check the grip," "stroke through the ball," "keep the wrist firm on impact," etc.

Using the Stroke Developer

Groundstrokes (forehand and backhand)

With the ball fixed at approximately waist level,

1. Stroke the ball from the side-to-net or stroking position, playing the ball off the forward foot.
2. Stroke the ball from the ready position. The movements, i.e., pivot (turn), step, and swing, should be similar to those used in shadow drills.
3. Move into position to stroke the suspended ball from spots at various distances from the ball.

Volley (forehand and backhand)

1. Volley practice proceeds similar to that described for the groundstrokes.
2. Place the ball at shoulder height initially, then raise and lower it for variety.

Practice should continue until the student learns the relationship of the ball to the body, the position of the hand and racket at impact, the path of the racket head through the ball, and the finish. Later the units may be used for review, expansion of facilities, etc.

Construction of the Stroke Developer

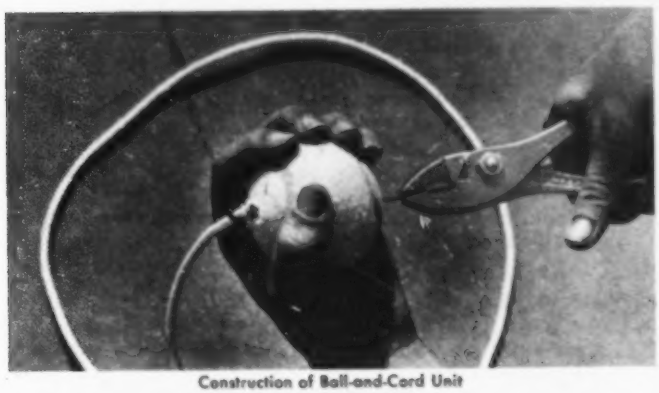
Top Bracket

1. The top bracket may be constructed of wood (2 x 4) or metal (1 or 2 inch pipe), approximately 42 inches long.

2. Attach the bracket to the fence post, wall, or backboard by welding or by using angle braces.
3. The top bracket may be replaced by a basketball rim or backstop.

Ball-and-Cord Unit

1. Cut 6 inches from a wire coat hanger with a pair of pliers and bend a narrow hook ½ inch from the end.
2. Place the last ¾ inch of a 4-foot length of shock cord (⅜ inch) in the hook and crimp the end of the hanger.
3. Pierce the center of a tennis ball with an ice pick or the end of the hanger (through the ball), then push the end of the hanger through until the end with the cord is flush against the ball.



Construction of Ball-and-Cord Unit

4. Take hold of the wire, next to the ball, with the pliers, grasp the ball with the opposite hand and twist and pull both until the cord unit is drawn through the ball.
5. Release the cord from the hook.
6. Tie a 6-foot length of ⅛-inch nylon rope or sash cord to one end of the shock cord and tape the ends with plastic tape.
7. Attach a hook to the opposite end of the rope for easy attachment to the fence or wall.

Base

1. The primary base may be a piece of wood, 4″ x 4″ x 18″, 2″ x 2″ x 24″, or a rectangular piece of metal, ½″ x 4″ x 16″.
2. The guide may be a metal strap or rod, ⅜″ to ½″ in thickness and approximately 18 inches long.
3. Allowing 2½ inches on each end, bend the metal piece so that it forms an arc, the center of the arc approximately 6 inches from the intended base.
4. Drill two holes at the ends, large enough to insert screws (weld to metal base).
5. Place a one-inch metal ring in place on the guide and attach the guide to the base.
6. Complete the operation by attaching the free end of the shock cord to the ring. The unit is now ready to be used.

Horizontal Serving Device

The horizontal serving device is similar to the stroke developer and is used in much the same way. Not difficult to construct, it consists of the ball-and-cord unit of the stroke developer and an additional piece of rope or cord tied to the free end of the shock cord.

The serving unit may be placed in the corners of the tennis court, high enough so that the ball will be hit with the arm and racket fully extended. The ends of the rope are pulled through the fencing, far enough from the corner post so that there will be no danger of striking the fence on the follow through. The free ends are extended and fastened to the fence with hooks. The ball may be raised or lowered from its original position by releasing one of the hooks and resetting it when the desired ball height has been determined.

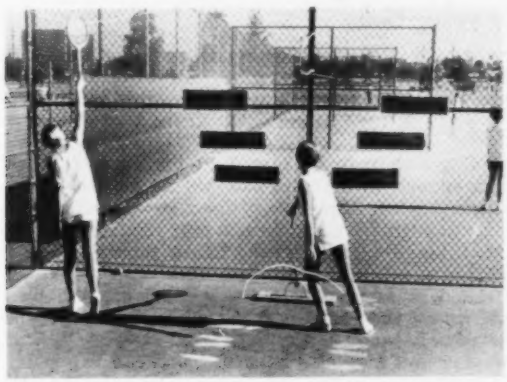
The serving unit may also be strung between two poles or used indoors by attaching hooks at desired positions in the corners and proceeding in a manner similar to that described for the fence. Net standards may also be used. The teacher, once having used the unit in one of the positions described, will use whatever available props can be found to accomplish the purpose.

Using the Horizontal Serving Device

1. Place the student in position under the suspended ball and practice tossing a ball, using the suspended ball as a guide. Combine the toss with the downward-upward movement of the racket.

2. With the racket in the bent-elbow position, the left arm extended, drop the rocket behind the back and, without hesitating, continue the upward swing of the racket to the point of impact.
3. Repeat the previous exercise except that the ball is now hit and the follow through is completed.
4. With the racket again in the bent-elbow position, simulate the ball toss and hit the ball.
5. Start with the normal serving position, simulate the ball toss, then continue the full swing, contact, and follow through.

The serving unit may also be used for instruction and practice of the overhead smash. Have the student assume the position of readiness for the volley in front of the unit. Moving back, as is sometimes necessary to hit the smash, the student is able to practice moving into position and completing the stroke.

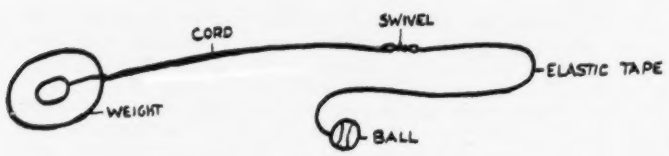


Tethered-Rebound Ball

The tethered-rebound ball is easily constructed. Like the stroke developer, variations of it are also available commercially. The unit replaces the backboard to a certain extent, but it provides more realistic practice when used across the net. It may be used on almost any level surface at school or at home. When used correctly, it can develop hand-eye coordination, timing, an early backswing, footwork, and stroking ability. It provides the teacher of large groups with another teaching station, lending variety to the program.

Construction

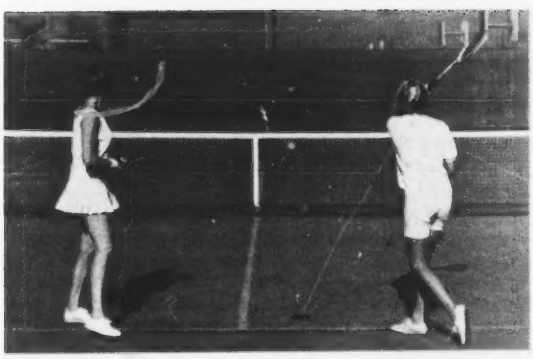
1. Tie one end of a 4-foot piece of ⅛-inch nylon rope or sash cord to a heavy duty fishing swivel.
2. Tie one end of a piece of ¼-inch elastic tape, 9 feet long, to the other end of the swivel.
3. Attach the cord to a 2½-pound weight, preferably flat (bar bell weight, lead, metal, brick).
4. Attach the end of the elastic tape to a tennis ball (preferably heavy duty or nonpressurized ball), by one of the following ways.
   a. Tie a double knot at the end of the tape; punch a hole in the tennis ball with an ice pick or the end of the coat hanger previously used. Push the knotted end into the ball, being careful not to cut the elastic.
   b. Bend the end of a piece of wire coat hanger to form a loop. Slip the end of the elastic through the loop and knot the end. Follow instructions 3 and 4 for the ball-and-cord unit and pull the hanger through the ball until the loop is in the center of the ball. Pull the loop to the edge of the ball and cut the excess wire off. The elastic should now extend from the center of the ball, and the unit is ready for use.



Construction of Tethered-Rebound Ball

Using the Tethered-Rebound Ball

Although the unit may be used on any surface, it is best used across the net. By moving the base up or back it is possible to vary the speed of the return. The student may also practice cross-court shots because the ball, after crossing to the opposite side of the net, returns to approximately the same position each time. It may be used by more than one student at a time—one on the forehand side and one on the backhand side alternating hits and switching sides. Another drill is for students to line up in position behind the ball, hit once or twice, and go to the end of the line.



Miscellaneous Aids

In addition to the stroke developer, serving unit, and tethered-rebound ball, the instructor should consider the preparation of templates for making footprints, spots, and circles on the courts; strips of wood, masonite, or metal for lettering cues or hints; painted or outlined grips on specially prepared rackets; paddles and shortened rackets for lead-up games and activities; and tinted tennis balls.

To provide the best instruction possible, teachers must be aware of the potentials within their field. Tennis instructors may now enjoy a number of advantages that make instruction more efficient. By utilizing the aids and developmental devices that are of reasonable availability, teachers can provide more individual instruction while each student has a maximum of actual participation. By using these devices, instruction may be provided even where adequate tennis court space is not available.

USLTA Women's Collegiate Championships

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Greensboro

In 1954, Mrs. Monroe Lewis of St. Louis conducted the first USLTA Women's Collegiate Tennis Tournament on an experimental basis on the campus of Washington University, St. Louis, Missouri. It was experimental because no competition open to all collegiate women players had been offered. Tournaments had been held on a sectional level, the Middle States at Bryn Mawr and the Eastern States at Forest Hills, but no tournament on a national level had previously been held for college women.

The purpose of the tournament was to offer competition on a college level for those players who had come through Junior Development programs and Junior Wightman Cup play to a high level of skill. It served as a bridge from junior play into women's play. The tournament continued to be conducted on an experimental basis until 1958.

In 1958, the USLTA made the tournament a national championship and listed it in the *USLTA Official Yearbook and Tennis Guide*. At this time the Women's Collegiate Championship Committee was set up under the chairmanship of Mrs. Lewis.

In 1961, application was made to the National Joint Committee on Extramural Sports for College Women for recognition and approval which was granted on the basis that the planning of the tournament was in accordance with established policies and procedures for the conduct of such an event. During the same year, Catharine Sample of the University of Miami formulated "Qualifications for Play in National and Sectional Women's Collegiate Tournaments" to conform to the standards set up by DGWS. Judy Barta also prepared a pamphlet on "Procedures Proven Successful in Running Tournaments for College Women," which has proven to be of great help in standardizing the format for conducting both sectional and national tournaments.

In 1963, the decision was made to rotate the national tournament every two years to a new college site in an attempt to involve new leadership in conducting the tournament and to equalize travel distance for the players. The district rotation plan was followed for five years, until the 1967 annual meeting. The Women's Collegiate Championship Committee decided that from 1968 on,

the tournament will rotate every two years to a site close to the center of the United States (North, Middle, South).

After ten years in St. Louis, the 1964 and 1965 tournaments were held at the University of North Carolina at Greensboro with Dorothy Davis as chairman. During this time, Miss Sample conducted a comprehensive survey on the prevalency of competitive tennis in colleges. This factual report, which includes such things as the number and type of courts, tennis scholarships available for women, number of staff, etc., is available from the USLTA office in New York.

In 1966 and 1967, Stanford University conducted the National Tournament under the chairmanship of Luell Guthrie. The 1968-69 location for the tournament is Carleton College, Northfield, Minnesota, with Eleanor Hansen the chairman.

Revised eligibility rules have been formulated by the Women's Collegiate Championship Committee working in cooperation with the Commission on Intercollegiate Athletics for Women. An identical purpose of both the USLTA Committee and the Commission is to upgrade any competitive event involving more than four schools by indicating a sanctioning procedure that will permit the Commission, in instances where it is needed, to make suggestions for improving the conduct of the event.

The Championship Committee, which has expanded to 13 members, has the following broad purposes: to organize, supervise, and implement tennis competition for college women; to establish policy; to recommend and set standards and eligibility rules; to provide guidelines, information, and procedures for the conduct of all USLTA sanctioned college women's tournaments. Its chief concerns are—

1. To increase the number of college women playing in tennis tournaments.
2. To structure tournament procedures and to select knowledgeable, wise leadership to ensure every participant of an enjoyable, competitive, educational, useful, healthy, athletic, and social experience,
3. To develop the image and value of tennis as a healthy competitive lifetime sport for women and their future children.

In 1968 the Women's Collegiate Championship Committee is publishing a booklet by Judy Barta entitled *Guidelines: Procedures and Recommendations for the Conduct of USLTA Women's Collegiate Tennis Championships.* The booklet, representing an eight-year study, will be available from the USLTA office.

The increasing number of sectional college tournaments and the growth of the Women's Collegiate Championships are indicative of the mounting interest in tennis among college women.

Eligibility Rules Formulated by The Commission on Intercollegiate Athletics for Women

An affidavit signed by an authorized woman departmental representative must be presented with the entry list from a participating college certifying that each student listed meets her institution's eligibility requirements and all standards listed below.

All participants must have amateur status. Amateur status is maintained in a sport if a player has not and does not receive money, other than expenses, as a participant in that sport. A participant may receive money only from her own school to pay for housing, meals and transportation. (A student who plays and/or coaches and/or officiates and who receives reimbursement in excess of her actual expenses for this playing, coaching, or officiating may lose her amateur status for open competition.)

Only a woman student who is presently enrolled as a full-time undergraduate student in a college, junior college, or university and who maintains the academic average required for participation in all other major campus activities at her institution shall be eligible to participate. A transfer student is immediately eligible for participation following enrollment in the institution.

For events held during the summer, a student who has been regularly enrolled for the semester, quarter, or trimster immediately preceding the events and who meets all other eligibility requirements shall be eligible to participate.

Students may not participate in the same annual event more than four times.

A student is eligible to participate in a sanctioned event when: (a) her institution has an intercollegiate team in the specific sport for which eligibility is being determined, and she has participated on the team during most of its recent season, or (b) her institution does not have a team for this specific sport and her institution approves her participation.

A student who tries out for or is selected as a member of an international team shall not be ruled ineligible for intercollegiate events.

Each student must have had a medical examination within a six-month period prior to the start of a particular sport season.

Any student who receives an athletic scholarship, financial awards, or financial assistance designated for athletes is not eligible to compete. An athletic scholarship is defined as a scholarship in which one or more of the following conditions exist: (1) the scholarship is dependent primarily upon one's athletic ability; (2) the scholarship is dependent upon participation in the intercollegiate program; (3) the scholarship is awarded as a result of undue influence by a member of the athletic de-

partment, physical education department, or coach who is aware of the athletic ability of the applicant. However, athletes may receive academic scholarships or economic need scholarships provided none of the conditions above apply.

A participant or a team may *not* receive, nor may the school being represented receive, nor any person employed by the school receive, any type of financial assistance from the hostess school or sponsoring organization to attend the national championships.

teaching techniques

Teaching the Difficult Beginner in Badminton

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Anyone who has taught many groups of beginners in badminton will recognize the problem of students who simply can not serve the bird. Instead of drop and hit, it is *drop* and *miss*. The more they try to hit the bird with the racket, the more frustrated they get. These players also have difficulty hitting the bird after it has fallen to shoulder or waist level or below and repeatedly miss it.

Our stock correction has been to tell these beginners to "watch the bird," but this is not usually effective treatment. The problem has intrigued me for several years, and I have experimented with different techniques to help these students. Here are four.

In watching these students try to hit the bird it seems to me that they are trying to hit with their hand. They have no *kinesthetic* concept of the distance of the head of the racket from their hand; intellectually they understand, but they can not feel the head of the racket out there. Also, they are unaware of the delayed reaction between the drop and hit. The first correction is to delay the hit. They should practice as they say "drop," pause, "hit."

Another solution is to move the hand as close to the head of the racket as possible (grip the racket just below the throat) and serve. As success increases, gradually move the hand farther and farther down the shaft of the racket toward the grip and away from the head. Varying amounts of practice time will be necessary for each student at each distance. Gradually, however, they can work back to using the racket at full length.

A third solution is to weight the head of the racket so that they can *feel* where the head is. A badminton racket, unlike a tennis racket, is weighted in the handle. This adds to the problem these students have, because they cannot *feel* the head of the racket. By weighting it they can feel it and can, therefore, use it more successfully. A very simple way of weighting the head is to put a ½" x ¼" round head stove bolt, nut, and washer (obtainable from any hardware store) through the gut of the strings (head of bolt and washer

on one side of strings, nut on the other) at the top of the head just under the frame and in the middle from the sides. After using the weighted racket for some time, the bolt can be removed and the student can play successfully without it. If she can not play without it, it can be put back.

Still a fourth solution is to give the student a shortened racket. These are available on the market.

All of these methods of helping the beginner who is having trouble with the serve or with the underhand strokes have been successful to some degree. I have found that weighting the head of the racket results in faster success than the other methods, but I am not certain of its lasting power.

Badminton ⟷ Tennis Transition

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Madison, Wis.

Frequently a physical education program offers badminton and tennis within the same semester or year. These two racket activities can either complement or oppose each other. Thus, an understanding of the relationships which exist between badminton and tennis may make the difference between progress and confusion for the learner in her attempt to gain proficiency in these sports.

Similarities and Differences

In view of the fact that both badminton and tennis involve a flying object, a racket, a court, a net, and similar locomotor skills, there is a tendency to assume that a close relationship exists between the activities. While there are many similarities between these two activities, there are also some basic differences. Transfer of training is more apt to result if both specific similarities and specific differences are pointed out to the learner. What then are the comparisons which might aid the learner in gaining a better understanding of both badminton and tennis?

The nature of the games suggests comparison of types of facilities, equipment, and performance possibilities. For example, the amount of space needed for tennis in comparison to that required for badminton is indicated in Figure 1, which shows a badminton court superimposed on a tennis court. There is an obvious need for more force in tennis due to the space factor. As a result, tennis rackets are larger and heavier than badminton rackets. Also, to a certain extent because of the need for more power, the skills which are necessary for tennis will vary from badminton skills.

The differences in the heights of the nets imply that the tennis ball can follow a path which is lower to the ground than is possible for the flight of the shuttlecock over the badminton net. In part, this explains why clears are used more often in badminton than lobs are used in tennis, and why drives are used more extensively in tennis than in badminton. In addition, the space factor becomes a consideration in badminton when, due to the smaller court, the game can be so fast that clears are needed frequently in order to allow the player to rest and to return to position. Therefore, this pattern of high flights is found more often in badminton than in tennis.

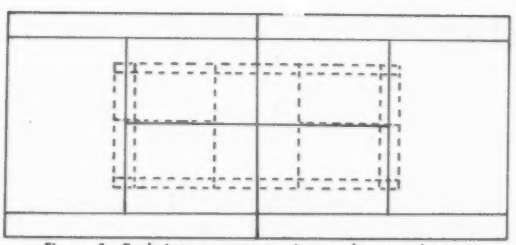

Figure 1. Badminton court superimposed on tennis court

Factors which relate to the flight of the shuttlecock in comparison to the flight of a ball are important to explain to a learner. Figure 2 illustrates the flight of a shuttlecock; the different arc which is created by the shape and weight of the shuttlecock is a contrast to the arc of a tennis ball which follows a regular parabola. A

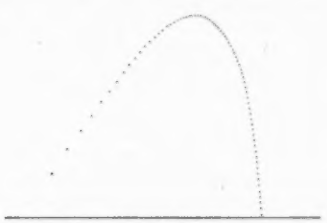

Figure 2. Flight of a shuttlecock

shuttlecock which weighs from 73-85 grams is much lighter than a tennis ball which weighs from 2-2 1/16 ounces. Thus, extreme air resistance causes the flight of the shuttlecock to vary from the usual flight of a ball. The ability to time the declining shuttlecock with exactness can be aided by an understanding of the differences in the flight of the two objects. The fact that tennis rules permit playing either a ball which bounces once or a volley determines the possibility of the use of certain skills. The lack of a bounce in playing the shuttlecock and the peculiar flight of the shuttlecock suggests different skill emphases for badminton.

Transfer of Skills

Badminton can capitalize on some skills learned in tennis. For example, if a player exhibits fine footwork in tennis, the possibilities

are great that, with slight adjustments such as more rapid movement and shorter steps, footwork can be excellent in badminton as well. The feel for a racket and the satisfactions gained from effective eye-hand coordination appear to be similar in tennis and badminton. Certain stroking patterns of the two activities are similar in some respects; at the same time, however, differences should be evident as necessary adjustments to the unique factors of each game. Such modifications are often problem areas. A tennis player on a badminton court, therefore, frequently tends to maintain long backswings and long follow-throughs which are often a handicap during a speedy badminton game. Words of suggestion such as "shorten backswings and follow-throughs" and "unlock your wrist" may aid the tennis player on a badminton court. If the tennis player who is learning badminton needs more wrist flexibility, a suggestion that the grip be made less tense by holding the badminton racket mainly with the thumb, forefinger, and index finger, relaxing the two lower fingers, may aid in increasing wrist flexibility. On the other hand, the badminton player who has a very flexible wrist usually experiences difficulty in an attempt to use more arm and body action, necessary for power on the tennis court. Despite similarities of various types, each activity has certain unique requirements which are necessary if players are to attain maximum proficiency in both activities.

If both tennis and badminton are offered in a curriculum within a short period of time, ideally tennis should be taught before badminton. This is a viewpoint which is expressed from observation and practical experience; research which would prove or disprove this hypothesis would be enlightening. The transition from tennis to badminton appears to be easier for the average individual than is the transition from badminton to tennis.

When the physical education profession learns more about the relationships which exist among various activities, teaching methods should become more adequate. Relationships need to be identified and then applied in constructing the curriculum. In this way, smoother transitions can exist between two activities such as badminton and tennis.

Best Foot Forward

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Good footwork is an integral component of skillfully played badminton. The last step or two of a play is usually what is missed by the elementary or intermediate player when attempting an effective return. Often these are the steps that are the most difficult, and, in addition, are the steps which usually determine the better player. Of course, the skilled player also must have a considerable knowledge of various strokes, deception, and court strategy. But most outstanding players will agree that the development of footwork techniques is essential if one is to attain any respectable skill level.

It is not easy to encourage a beginning player to attempt a return of every shuttle, but the beginner must be taught to realize the possibility of returning *any* shot, whether it be a high deep clear to the backhand or a crisp overhead drop shot falling close to the net. She must be given the opportunity to familiarize herself thoroughly with the court—that is, to understand the amount of effort necessary to race to the net, to the sideline, or to the baseline.

Early in her learning, parallel to her instruction in basic stroke techniques, the student should have the frequent opportunity for diligent practice of basic court movements. Then she will gradually come to realize that, with effort, it is possible to return a shuttle from any court area.

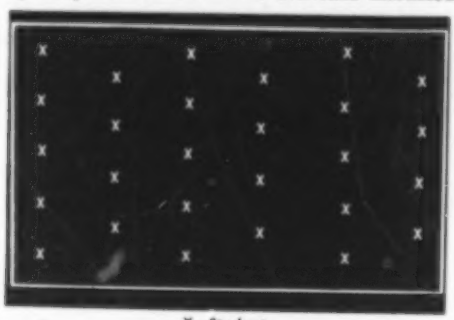
Basic to all court movement is the starting position and/or recovery position which is commonly termed "home base." The home base area differs with the individual player. For example, if a player's forward movements are quicker than her backward movements, she will tend to establish her "home base" beyond the center of the court. In most instances, however, it is usually located close to the center of the singles court, while in the side-by-side method of doubles, it is as close as possible to the center of the court area.

Students, even in large classes, can be given an opportunity to learn effective footwork techniques and body control (change of direction) through imaginative planning by the instructor. Group activities which have been used successfully in class situations are diagrammed and explained in the following pages. These activities can serve as guides for students learning valuable movement experiences which are part of the techniques of movement.

Beginner's Techniques

To encourage development of footwork techniques the instructor

must also directly encourage the development of body control, endurance, leg strength, coordination, and efficient movement. Rope jumping is one of the best devices for developing good footwork. Rope jumping should be included in the student's class experience. A variety of foot patterns can be learned: jumping, hopping on one foot, hopping on alternate feet, forward and backward movement while hopping, and double jumping. The use of jump ropes can be easily adapted to most of the activities discussed hereafter.



X—Student

Figure 1. Class organization

Body control, which involves the ability to change direction quickly and gracefully, can be helped through the practice of the group activity of a simple forward and backward running combination. With the signal of "forward" (or one whistle) the students run forward until a signal of "backward" (or two short whistles) is given. These signals should be given in fairly rapid succession. With a large group it is more effective to use the whistle. During this activity the students should be encouraged to move *quietly* and *lightly*. They should be organized to provide considerable space for the forward and backward running. A staggering of the students, as illustrated in Figure 1, is most satisfactory. The use of jump ropes can be easily adapted to the running activity by moving forward and backward while jumping rope.

Transferring the forward and backward running movements to the court area is the next progression for developing footwork. Place as many as four students on one side of the net, midway between the baseline and the net. Instruct the students to move with rackets in hand. On the signal "up" (or one whistle) they run toward the net, mimic an underhand clear, then return to the

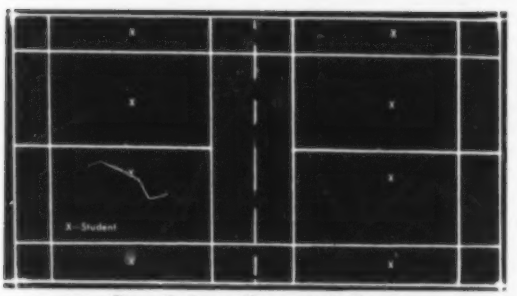
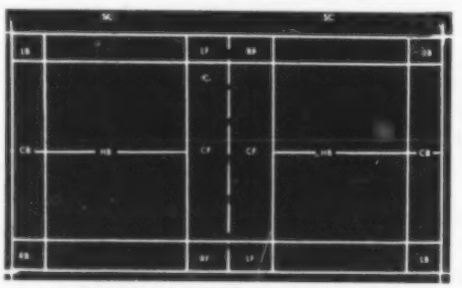


Figure 2. Large Class organizations

center position as soon as possible. On the signal "back" (or two short whistles) they run to the baseline, mimic an overhead clear, then return to the center of the court as soon as possible. The signals may be alternated at first, but later they should be scrambled; for example, three successive "up" signals, then two successive "back" signals, and so on. See Figure 2 for suggested class organization involving a large group.



LB—Left back
CB—Center back
RB—Right back
HB—Home base
LF—Left front
RF—Right front
SC—Signal caller

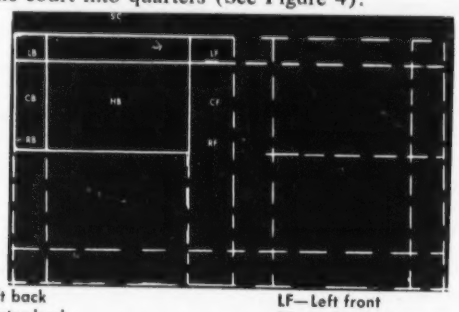
Figure 3. Court positions

Intermediate, Advanced Techniques

Group practice may be used effectively with the intermediate and advanced groups, but often these groups demand somewhat more challenging movement patterns. It is a good idea to challenge the student to move and think simultaneously, especially at the intermediate and advanced levels.

Divide the court into six specific areas in addition to home base. (See Figure 3) Instruct the students to begin in the home base area. With racket in hand, they wait in an erect position with the heels slightly lifted and the weight toward the forward part of the foot. On the instructor's signal, "left back," the students move to the LB area, mimic an overhead clear (or preferably, a backhand clear), and then return to the HB. Immediately another signal should be given, or the previous one should be repeated. On signals directing the student to the net, the underhand clears should be mimicked when in the designated area. The instructor may call the signals, but the class may be organized so that each player on the court has a "signal caller" at the sideline.

This activity may be varied to accommodate a larger class by dividing the court into quarters (See Figure 4).



LB—Left back
CB—Center back
RB—Right back
HB—Home base
LF—Left front
RF—Right front
SC—Signal caller

Figure 4. One-quarter court

With this division it is possible to accommodate four players and four signal callers on one court. For variety the signal caller may also jump rope as she calls out the signals. This is an especially useful challenge for her, as she must think and move simultaneously.

Leg strength, coordination, endurance, graceful movements, and good body control are integral components of footwork. They deserve much attention. The various group activities just described have been used successfully in both large and small classes and can be used further as a guide for additional group activities. However, the *best* activity of all is to provide the student with as much opportunity to play the game as possible. Only by playing will she realize the importance of moving gracefully and efficiently.

Situational Awareness—Can It Be Taught?

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Northeastern University
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One of the most difficult aspects of badminton for beginners to learn is the relation of their play to what is happening on the other side of the net. Even the intermediate player with adequate stroking is often content to return the shuttlecock with his best shot, irrespective of where his opponent is, where he is going, or what his strengths and weaknesses are. Certainly one of the best ways to gain the situational awareness necessary for skilled match play is to play—and play—and play, against players whose skill makes it necessary to see and to think in order to score. It is possible, however, to compress the teaching of situational awareness into game-like drills which point up various aspects of stroke utilization.

These patterns of play can be used almost from the beginning of the badminton unit. As soon as players have acquired some adequacy in stroking, the strokes learned may be put into a pattern. For example, as soon as players can hit the high (singles) serve and/or the low (doubles) serve, the clear, and the drive, the following pattern can be used:

Player A: serve
Player B: clear to the deep backhand
Player A: drive down the sideline
Player B: clear to the deep forehand
Player A: clear to the deep backhand
Player B: drive cross court

Continue the series with Player A hitting Player B's shots and B hitting A's.

Much thinking on the part of students is provoked by such questions as "Is there another way to return the serve (or clear, or drive)?" "Can you think of a more intelligent placement in relation to your opponent's positioning?" "How would you react to the stroke (or placement) suggested by a classmate?"

When the smash and overhead drop have been added to the students' stroke vocabulary, many possibilities for pattern play are created, such as the following:

Player A: serve
Player B: clear to the deep backhand
Player A: drop to the forehand
Player B: clear to the deep forehand
Player A: clear to the deep backhand
Player B: drop to the backhand
Repeat.

In the above pattern, and in any pattern after the smash has been taught, students should be instructed to smash whenever they deem this stroke appropriate. To keep the pattern as game-like as possible, it should not include a "set-up" for a smash. At the beginning and intermediate levels, many shots not so intended will become smashable, and part of learning the stroke is learning when to use it. Students need practice in the judgment necessary to decide whether or not it is possible to smash, and whether or not it is intelligent to smash.

As students near the level where they have been exposed to and gained some competence in almost all strokes of the game, including the finess of net play, the construction of possible patterns of play becomes an exciting game in itself. Intermediate students might try the following:

Player A: serve
Player B: clear to the deep backhand
Player A: drop to the forehand
Player B: cross court net flight
Player A: hairpin drop
Player B: clear to the deep forehand
Player A: drop to the backhand
Player B: hairpin drop
Player A: cross court net flight
Player B: hairpin drop

Again, the smash should be used when deemed appropriate.

It is vitally important for the teacher to remember that the pattern itself should be used as a springboard to game situation understanding. It uses a prescribed series of shots, in the order in which they might very likely be used in a game, and, even more important, it creates an atmosphere which begs the question "why?" Often the discussion which accompanies and follows pattern play needs very little teacher-oriented prodding to bring out possible variations based upon strengths and weaknesses of individual players and game habits of individuals.

The students are most likely to find the next step by themselves. They can be guided to it by the suggestion that they start the

pattern they have been playing and see if they can deceive their opponent by varying the pattern in relation to what they observe of their opponent's play, what they know of their own capabilities, and the conclusions to which these data lead them. The results can be amazing to both students and teacher.

Pattern play can be an excellent adjunct and help in the teaching of situational awareness in badminton. It cannot take the place of the teacher, but it provides a setting in which opportunities to teach are abundant. Careful, patient utilization of the opportunities thus created will result in players to whom match play is a test of their ability to *think* badminton as well as to hit a shuttlecock.

Fundamental Principles of Movement Applied to Badminton

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An understanding of the principles of movement is valuable in both the teaching and the learning of badminton. Instructors may point out common elements and movements involved in various strokes, observe errors in performance more readily, and give appropriate cues for correcting the errors. For the students, an understanding of movement principles makes learning more meaningful because they are aware of the reasons for particular stroke techniques and can analyze their own movement errors.

Although the game of badminton consists of a wide variety of strokes, there are three principles of motion common to all: balance, force, and directional accuracy. The first of these, balance, involves a ready position which enables the player to react and move quickly to get into position to return the shuttle and also a stable body position which is essential in executing strokes requiring a great deal of force. The second movement factor, force, is necessary in varying degrees depending on the stroke. Clears and drives, for example, require a great deal of force, while the drop shot requires very little. The student must learn to produce the proper amount of force to execute these shots well. The third factor, directional accuracy, is essential in learning to direct the shuttle to the desired spot on the opponent's court. This includes the ability to direct the shuttle in a horizontal as well as a vertical plane. The movement principles of balance, force, and directional accuracy are analyzed in more detail below.

Achieving Balance

Some factors which contribute to a well balanced body position are as follows:

1. Feet in a forward-back-stride position. This provides stability in all directions.
2. Weight forward on the balls of the feet. Think of almost lifting the heels from the floor.
3. Knees easy, not locked or hyperextended. Hyperextended knees raise the center of gravity, thereby reducing stability. In addi-

tion, reaction time is lengthened, as the knees must first be bent before being able to push off.

Generating Force

Many badminton strokes require a great deal of force in their execution. All of our appropriate lever systems (movements) must be utilized in the correct sequence to obtain maximum force, which is then transferred to the shuttle at the instant of impact. If any one of these *force factors* is limited or omitted, then force production will be minimized. This results in shuttle flights which are slow, weak, and short. Movements which contribute to force production include the following:

1. Big backswing. Bring the head of the racket far back. This allows the racket head to be swung forward over a greater distance.
2. Weight transfer. Get your *body weight* into the forward swing by shifting your weight from the back to the front foot as you begin the forward swing. Step into the stroke. At the instant of contact, your weight should be on your front foot.
3. Hip rotation. Begin the backswing with the *side* to the net. As you complete the forward swing, you should be facing the net. The hips twist forward toward the net as the racket swings forward.
4. Shoulder-arm. Swing *far back* on the backswing. Swing *vigorously* forward on the forward swing.
5. Elbow snap. Bend the elbow on the backswing. The elbow leads on the forward swing. Snap (straighten) the elbow vigorously, just prior to the wrist snap. At contact, elbow and wrist are both extended.
6. Wrist snap. Allow the wrist to lead the racket head during the forward swing. Keep the wrist in this cocked position until the instant prior to contact. At contact, *snap* (unlock) the wrist *vigorously*.
7. Follow-through. Think of stroking the racket head *forward, through* the shuttle. Continue forward swing after shuttle has been hit. Some common errors which detract from force production include:
   a. Limited or incomplete backswing.
   b. Feet in a side-stride position, has the effect of limiting several force factors: backswing, weight transfer, and hip rotation.
   c. Facing the net throughout the stroke, tends to reduce power due to restricted hip and shoulder rotation.

d. Keeping the elbow and/or wrist stiff during the stroke.
e. Tapping at the shuttle, thereby eliminating the follow-through, results in decreased power. This is because the individual has "applied the brakes" to her force summation prior to actual impact. The force should be allowed to coast gradually to a stop in the follow-through.

Achieving Directional Accuracy

Students continually need to be helped to improve their ability to send the shuttle to a designated spot on their opponent's side of the court. Some factors which influence directional accuracy include:

1. The direction in which the shuttle is caused to go (up, down, left, right) is largely the result of the *angle* of the racket *face* at the instant of impact. A closed face sends the shuttle downward; a face twisted laterally to the left will result in a crosscourt flight to the left, and so on.
2. The *direction* or plane of the *forward swing* often affects the angle of the racket face at impact. If a flat shuttle flight is desired, as in the drive, then the forward swing should be in the horizontal plane. But if an upward flight is desired, as in the long serve, then the forward swing must be upward.
3. *Follow through* in the direction in which you wish to send the shuttle. By concentrating on the direction of the follow-through (up, down, left, right), the player is assisted in obtaining the appropriate angle of the face of the racket at impact.

Instructional Approaches

Early in the badminton unit, take some time to explain and explore these various principles of movement as applied to stroke production:

1. Balance
   a. Have the girls assume various stances to see which foot position gives them the best all-around balance.
   b. Stand with the knees purposely hyperextended. Try to jump from this position. The girls will quickly see that in order to initiate movement in any direction, they must first bend the knees.
2. Force production
   a. Using the overhead clear as an example, mimetically practice each of the force factors independently; then put them together into a coordinated movement pattern.

b. Purposely assume a side-stride stance. See how the backswing, hip rotation, and weight transfer are limited because of this body position.

3. Directional accuracy
   a. Use diagrams on the chalk board showing how the angle of the racket face affects shuttle flight.
   b. Practice against a wall. Do not rally: stroke and retrieve. Explore the effect of the forward swing on shuttle flight. Practice swinging upward, then horizontally.
   c. Practice against the wall as above, using an underhand stroke. Notice the effect of the follow-through on shuttle flight by following through at different heights.

A Teaching Progression That Works

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There are, of course, various theoretical progressions for the teaching of badminton. The real merit of any progression, however, is determined by its practicality and its success when put into operation. The progression offered here is one which has proved workable and stimulating for learners in the Port Angeles, Washington, Junior Badminton Club.

Introductory Skills

We have found over the years that the first skill the beginner must learn is the proper holding of the racket. The quickest and easiest method of teaching this is to have all the players place their rackets flat against their legs with the heads of the rackets resting on the floor, and then have them very simply reach down and shake hands with the handles, gripping the handles not too tight, but snugly.

The next step is to furnish each two players with a shuttle and to have them start hitting back and forth to each other. A net is not necessary at this stage. A lot more players can use the space for rallying if no net or court lines are used. With this arrangement, the instructor will then be able to pick out the natural players as well as observe what is needed by some players who find hitting the bird a little difficult.

Serve

After two or three sessions of hitting back and forth, it is time to begin the teaching of the serve. Two good methods for beginners are: (1) to draw a line five feet high on a wall with chalk, measure off the distance a server stands from one court to the other, and have the students serve to hit the line on the wall; (2) in the other available court space, to place small boxes or baskets approximately where receivers would stand and have the students try to put the shuttles in the boxes.

Shot Making and Footwork

After a player has developed to the point of being able to serve properly and to hit the shuttle sharply, it is then time to introduce scoring procedure, shot making, teamwork, and footwork.

A simple procedure which may be used to start on these various points is to put two players on one side of the net and to have one player opposing them. The two players then hit the bird to all corners of the opposing player's court, forcing the one player to hit back high and clear in order to allow herself time to return to the center of the court after each shot. This exercise is called *Corners*, and is just as important to the two players as to the one, since it improves the ability of all the players in placing the shot and developing bird control. In playing *Corners*, the one player opposing the two, if she goes at top speed and tries for all shots, will find it difficult to stay out on the court more than two or three minutes. At this stage, a new player is introduced and after about five players have been put through this exercise the time has come to replace the two players with two more. In this manner, a great many students can be put through this routine in a limited time. This exercise is very good for footwork, wind conditioning, and improvement of the ability to jump forward, backward, and sideways.

The next exercise is for the one player to stand in the exact center of the court while the two opposing players move up to the middle of their court on either side. From these positions, the two players will snap the bird down the singles side lines not too hard but low and flat, causing the single player to reach sideways to return the bird in the same manner. In carrying on the exercise, keep changing side from the single player's forehand to her backhand.

After the exercise, players can move quickly into work on the smash and drop shot. The single player will stand in the exact center of the court and execute drop shots and smashes, after each shot jumping back to the center position. One of the opposing players will stand up near the net, the other two-thirds of the way back in their half of the court. Each of the two players will return the opposing player's drop shots or smashes, setting up the next shot for the single player. It is very important for the player executing the drop shots and smashes to use the same basic movements on both of the shots, that is, employing a similiar preparational swing, then reaching high overhead and slightly forward in carrying out the contact part of the swing.

The next procedure is for the single player to go from the center position to her backhand corner and alternate with a backhand drop shot and a backhand clear or drive.

The series of exercises outlined will give the potential player a well-rounded group of shots and movements basic to the learning of doubles teamwork which should now be introduced.

Doubles Teamwork

In teaching doubles teamwork, instructors need to stress the advantages and disadvantages of the various systems and help the players develop coordinated moves in using the systems. While some variations exist concerning when shifting occurs, the suggested plans which follow seem to work quite well.

Two of the most popular and successful systems for doubles teamwork are the up-and-back system and the revolving system. In the up-and-back system, one player plays up on the service line in the middle of the court while her partner plays directly behind, about on the back double service line. This position is maintained until the front or rear player lifts the bird into a high clear, at which time the front player jumps back to one court while the rear player comes forward until both players are side by side, one on each side of their court. This position is maintained until either player makes a drop shot or comes forward for a drop shot made by the opposing team. They then go into the up-and-back system until one of them again makes a clear shot.

In the revolving system, the player on the right-hand side of the court facing the net does not back up more than one full step to return an opponent's shot. If a bird goes further back than this, the player on the left-hand side of the court facing the net will come over and take the shot, after which she will stay on the right-hand side. In the meantime the other player has crossed over the the left court. This procedure always insures a strong return by the forehand of a deep clear shot.

In the revolving system, the player on the right side of the court facing the net will stand in position about two feet closer to the net than the position of the player playing in the left-hand side of the court facing the net. This means that the right-hand player will usually take all drop shots.

It should be noted that in both the up-and-back system and the revolving system, the side-by-side system, perhaps slightly modified, is employed as an intermediary link for getting necessary floor coverage and setting up positions from which players may move into either of the other systems.

Physical Fitness Necessary

Badminton has never been an outstanding spectator sport in the sense that some sports, such as football and basketball, have been. Due to this, it is sometimes hard for an instructor to whip up the enthusiasm of a group for badminton and to get them to understand the real benefits to be gained. A player must experience the satis-

faction of playing a faultless game of singles or doubles to realize the peak of physical fitness good badminton requires and to gain a sense of satisfying achievement.

Badminton is a demanding sport, requiring the utmost of the player in all aspects of physical fitness. The instructor should stress this point to the players who wish to go on with badminton into higher competition, that is, into local, state, and national tournaments. More hard fought, close games are won by the player who keeps physically fit than by the player who has neglected this aspect but can match her opponent in skills and strategy.

The progression presented seeks not only to develop competency in the execution of a variety of shots, coordinated teamwork, and rapid but controlled footwork, but also to bring players to that high peak of physical fitness which good badminton demands.

Techniques for Advanced Badminton Students

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Advanced students, even when they must share a class with beginners or less skilled players, can be motivated to become highly proficient in the game of badminton. Toward that end, they should be encouraged to practice the drills and techniques outlined below.

I. PRACTICE OFF THE COURT

A. Skip rope to improve footwork and strengthen legs and feet. Practice quick stops and starts with pivots.

B. Volley the shuttle to self on the racket 100 times or more.

C. Pick the shuttle up from the floor with the racket to develop wrist action.

D. Twirl the racket to keep the wrist flexible.

E. Volley a shuttle against a wall with correct wrist action. The Timpe with the rubber tip is good for the wall volley.

F. Volley a shuttle around a circle of players, high and then low, with correct wrist action and control.

G. Practice the doubles service (low and short) with a rope stretched at the correct height. The space may be shorter than a full court.

H. Practice the smash or fake smash by hanging shuttles from strings at various heights around the gym from fixtures, bars, or poles. They should be within the reach of players of all heights. Around-the-head forehand smashes, as well as the backhand and the ordinary smash, should be drilled. Students should set up the shuttles by throwing them, rather than by using rackets.

I. Hit clears over any high equipment (basketball goals, ropes, etc.) in the gymnasium.

J. Practice net shots over a string at the correct net height any place in the gymnasium.

K. Hit a shuttle through a hoop for practice in net rallying or in serving.

L. Practice clears against a wall with one player near the wall setting up the shuttle to another who clears. The target height should be well above the outstretched arm and racket of the set-up player near the wall. The set-up player should retrieve the shuttles that fall from the wall.

II. PRACTICE ON THE COURT

To control the shuttle, continued practice must be encouraged in all basic techniques in order for deception, placement, precision, and change of pace to be mastered. By using two shuttles on one court, four players can double the value of their drill session. See Figure 1.

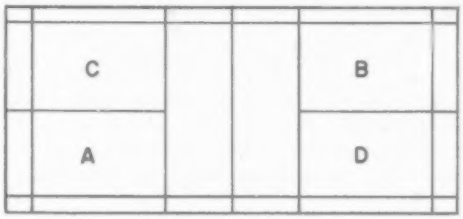

Figure 1.

A in the right court hits to B, who returns the shuttle which is caught and held by A until C has hit to D.

A. Practice serving. (Serving with the right foot forward permits better coverage of the left court.)

1. Make two short services to the forecourt—one to the forehand and one to the backhand of opponent.
2. Make two long services to the back court—one to the forehand and one to the backhand of opponent.
3. Add one string or rope one foot above the top of the net and a line one foot behind the short service line to practice placing the low and short serves through and into the spaces.
4. Targets for the corners, front and back, may be constructed for accuracy practice. See Figure 2.

B. Practice forehand and backhand. Return one shot to the forehand and one to the backhand of player who hits two shuttles to each side. (Returns must be caught or retrieved to avoid confusion.) Correct students' footwork when necessary. This drill may be used to practice drives, clears, drop shots, and net shots.

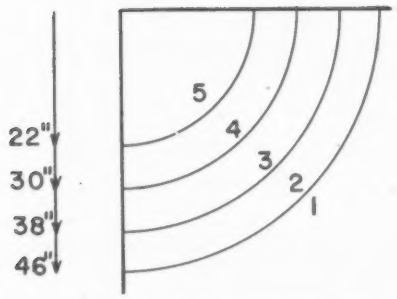

Figure 2.

C. Drives, smashes, clears, or net shots may be practiced straight down the line with both birds traveling at the same time.

D. Practice net flight progression. See Figure 3. A serves a low short serve to B. B returns with a net shot. Both players make net shots down the length of the net until the bird is missed or goes over the short service line. The next players in line follow the same procedure.

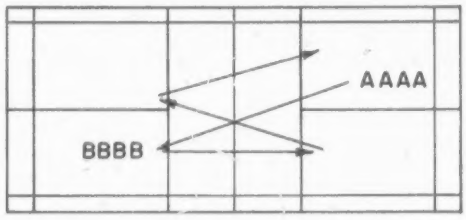

Figure 3.

E. Play rotation badminton. See Figure 4. Divide the players in half and line them up as diagramed. Every player may have a racket, or there may be two rackets to a side. One player starts the shuttle and goes to the end of the line. The receiving player hits the shuttle and moves on to the end of the line ahead of her. A player who fails to return the shuttle starts it for the next in line, and then drops out of the game. When only two are

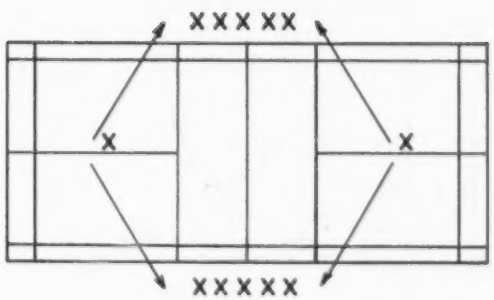

Figure 4.

remaining, instead of rotating sides, they rally until one player faults. No smashes should be permitted.

III. GAME PLAY

A. Singles—The player must realize that she has the whole court to defend. To defend it successfully she must—

1. Return to the center court between shots.
2. Master the long service. It should be used 80 to 90 percent of the time.
3. Employ an occasional short service to surprise the opponent.
4. Make an effort to keep the opponent in the backcourt as much as possible with drives, clears, and smashes to open the court for her own placements. All clears should land beyond the doubles long service line. This should be constantly checked.
5. Use net and drop shots infrequently and only when there is a perfect opening. The drop or net shot should fall in front of the short service line, the closer to the net the better.

B. Doubles

1. The advanced student must learn to cooperate with her partner for adequate coverage of the court.
2. She must also play the shuttle for her partner and make shots whose returns will leave an opening for her partner..
3. The rotation system is a must for advanced students. It demands more practice with partners and the ability to alter the system to adjust to the opponents' attack.

2

a. The side-by-side arrangement is assumed when hitting the shuttle upward on defense, and the up-and-back when hitting the shuttle downward on offense.
b. Rotation is usually counterclockwise.
c. The player on the right is always on the alert to go in for the smash or drop shot. Exception: The player on the left moves up when the player on the right has a smash opportunity.
d. When the server serves short, she must cover the net. The receiver must cover the net if the return is short. On a long serve, the side-by-side position is assumed.
e. Retreat from the net only when a high clear gives the time necessary.
f. The net must be covered when a drop or smash shot is made.

IV. ADDITIONAL POINTS TO STRESS

A. In practice games, require the advanced student to try every shot, not just those she can do best.
B. Encourage the student to play the shuttle from above whenever possible. If the player hits the shuttle upward, she is on the defensive; if she hits it downward, she is on the offensive.
C. The student should be encouraged to play outside of class whenever she can get a court and a partner.
D. Remind all students that badminton is a game of finesse in which strategy can always defeat strength. The diagonal net flick and the soft drop into an open area will make as many points as the quick drive and the hard smash.
E. The student should be urged to officiate with a scoresheet or book so that she may learn to follow plays, and to observe fouls, faults, and weaknesses in stroking and court coverage.
F. The advanced student should observe and also enter badminton tournaments.
G. Practice, practice, practice—with a partner or alone.

strategy

Creating the Opportunity To Score

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Many instructors are faced with students who claim proficiency, but who know little about variety and form in stroking, scoring, rules, and above all, strategy. These students are surprised to learn that badminton involves skill in a number of strokes, mental alertness, fast starts, quick changes of direction, and endurance. Interest increases when greater emphasis is placed on winning by "outsmarting" an opponent, and players become alert to scoring opportunities; they even learn to create opportunities to score. Badminton becomes truly challenging and far more exciting for them.

Elements of strategy include mastery and understanding of the use of numerous strokes, the wisdom of proper placements, and the value of deception and change of pace.

Strokes

Each strike produces a different effect on the flight of the shuttle. Some are calculated to send the shuttle fast and close to the net; others direct it in long, high, ascending flights; still others aim it downward or diagonally across the court at sharp angles. Selecting the proper stroke and using variation in flights is an integral part of strategy which should be stressed by the instructor. For example, whenever the shuttle is directed downward, as in the point-winning smash, the player is playing offensively. On the other hand, strokes that are hit upward, as in a high clear, are usually defensive strokes. Ordinarily players should attempt to strike the shuttle downward, thus playing offensively. The shuttle, when returned in a low flight, forces the opponent to stroke upward, thereby creating a scoring opportunity for the receiver.

Just as it is important to know when to use a stroke, it is equally important to know when to avoid it. For example, since both the smash and the drive are power strokes, they go over the net fast and consequently are returned with speed. If a player needs time

to return to the center of the court or to recover from an off-balance position, she must use a stroke designed to give her ample time to prepare for the next shot. At the same time she should use the stroke which gives the opponent insufficient time to get into position. Proper choice of strokes must be viewed as fundamental to good strategy.

Placement

Directing the shuttle to the unanticipated spot is a first lesson in strategy. Keeping one's opponent on the move by placing the shuttle out of easy reach not only exhausts her but places her in an ineffective defensive position. For example, after a rally from corner to corner, returning two consecutive shots to the same spot frequently catches the opponent off balance. High clears directed well to the rear of the court whenever the opponent is playing forward, and strategically placed drop shots when she is playing back utilize both good placement and deception. Generally speaking, it is wise to keep the opponent in the back court so that it is difficult for her to make a strong return. At the same time, placing the shuttle in the alley during doubles play draws the opponents out of position, whereas center line shots often confuse doubles players. Other placement strategems include returning the shuttle directly to the opponent's body, thus placing her in an awkward and vulnerable position. Playing to the opponent's weaknesses and faults is often a point-winning maneuver.

Deception and Change of Pace

Stroking deception involves variation in pace and in direction (from the more powerful strokes to the softer shots). Since the backswing for a smash, overhead clear, and drop shot are alike, a player can open up scoring opportunities by feinting a smash or clear but following through with a drop shot. The preliminary actions of the strokes must be identical so that the player's intention is concealed. More advanced players can learn to face the body in line with the flight of the bird, but angle the racket in such a way as to direct the shuttle to an unexpected court position. Such techniques often mislead an opponent who has anticipated a different bird flight or placement.

Let's not be satisfied with play in which the goal is keeping the shuttle "in the air" by shots that can be returned with little skill, effort, or thought. Let's make badminton what it *can* be—a fast, vigorous sport in which real skill and good thinking are key elements.

Placement, Strategy, and Return of Serve

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Two of the most important principles in badminton are: (a) to hit the shuttle downward is to be on the offensive, and (b) to hit the shuttle upward is to be on the defensive. Position and strategy should be planned with these principles in mind.

Doubles

The best offensive or attacking position in doubles is to have one player in the center of the back court and his partner near the net where the short service line bisects the center line. The best defensive position is one in which partners are side by side, each in the center of his court. The best position for the receiver varies with each individual. Naturally, a beginner should not stand as close to the short service line as an advanced player. His position should be close to the line but still allow him to move back under a long serve. The advantage of standing as close to the short service line as possible is twofold: (1) the receiver can "rush" the serve, and (2) the receiver may upset the server so that he loses control of his serve. It is important to maintain a well balanced position with the left foot forward and the weight equally distributed on the balls of both feet to be ready to spring forward or push backward. The racket should be held up, at least head high, to be in a position of readiness. The receiver should also be a little to the left side of the court so that most returns can be taken with a forehand stroke. The greatest receiving fault of the beginner is to wait until the shuttle had dropped too low and then make a defensive return by hitting it up. The important point to remember is to meet the shuttle as early and as high as possible.

A short serve is to be expected eight or nine times out of ten. One of the most effective returns is a half court shot down the sideline on the same side of the court. This is particularly good because both partners of the serving team think they can get it, but unless the person playing net can "cut it off," the back player has to hit it up. Besides causing confusion as to which player is going to hit it, this shot results in a defensive return. A short serve should be

rushed whenever possible and dumped just over the net on the same side of the court, hit hard to the nearest sideline, or hit at the opponent. Rushing the serve takes sharp reflexes and perfect timing, however, so this type of return is for advanced players. The placement is the same for beginning or advanced players. Cross court shots or wide serves to the sidelines should be avoided most of the time because they give the opponent too much angle for the return. When the serve is directed near the center line, the return must be nearer the center of the court than if it had been served to the outside corner. Thus, the return from the center can be more easily intercepted with less effort. A drive serve to the backhand corner should be driven back with a round-the-head or backhand stroke. A flick serve should be returned with a smash or drop shot to the center of the court.

Occasionally the serving team will serve from the sideline in the right court in order to hit the backhand corner and get a weak return. The best response to this serve is a backhand drop shot to the backhand corner of the server's court in order to remain well balanced and in a position to follow the shot to the net for a short return. A round-the-head shot may be smashed, but the receiver is off balance and unable to take care of a blocked return to his front forehand corner. The success of this serve is usually due to the weakness of the receiver rather than the superiority of the server. By using this serve, the server leaves most of the defense of the court to his partner, and he shows the receiver what he is going to do.

Singles

The shuttle is cleared much more often than in doubles to force the opponent to back up and leave an opening for a drop shot. It is assumed the server will hit a long, high serve eight or nine times out of ten, so the receiver should stand in the center of the court. The best return of a deep serve in singles is a high clear to the backhand corner. This may be varied by hitting to the forehand side, but do not forget that it is shorter to hit down the line than to hit crosscourt. A short drive to the backhand is always good because it forces the opponent to hit up. A drop shot is used only for variety of return so the opponent doesn't expect the same thing each time. Always return a short serve deep, preferably to the backhand corner. A drive serve is best returned with a drive down the backhand line. Players have different weaknesses, however, and finding out what is best to beat each particular opponent makes badminton intriguing and fascinating for both beginner and expert.

Strategy and Tactics in Ladies Doubles

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For success in ladies doubles, a combination of systems should be used to ensure maximum court coverage. A doubles team will find that the side-by-side formation is its best defensive court position in handling the opponents' attack, while the up-and-back formation offers the best sound offensive court position. In other words, the doubles team will be constantly shifting from one formation to the other, depending on the flight of the bird and its best judgment of play at the moment. The underlying principle in doubles is to attack, attack, and maintain the attack!

Court Positions

Server and Partner. The server should take a position on the court three to four feet back of the short service line and close to the center line, while the server's partner straddles the center line behind the server. If the server delivers a low serve to the front backhand or forehand pocket of the opponent's service court, she should, after serving, advance with much speed to the middle of the short service line (which we will call *net position*) with racket up in anticipation of any short net returns. This new base will give the server an excellent offensive position along with placing much pressure on the receiver. When the server moves into *net position* after a low serve, she should remain in that position. When her side loses the attack, she would then with great speed dash back into her closest defensive side-by-side base.

If the server chooses to serve a high service to the opponent's backhand pocket, she should then step to the center of her own service court and ready herself in the best defensive position, which is side-by-side. Should the server deliver a high service to the back forehand pocket in the right service court, she would then take a few steps directly back from her serving base and prepare herself for any return on her backhand which might be placed out of her partner's reach. At the same time, she should be on the alert for a cross court drop in her forehand corner.

The server's partner on a low serve stands ready with racket held high to deal with any return of service that is flicked high over the

server's head into the back court. The server's partner is also ready for any return of service pushed back by the receiver or a half-court push shot down the side line. She remains in this back court position until the attack is lost, in which case she must quickly move forward into the closest defensive side-by-side base and be ready to vary that base according to the shortest arm of the widest possible angle of return that can be made by the receiver.

Receiver and Partner. If the receiver returns a low service with a net drop, flick shot down, or half-court push shot, she should follow the bird into the *net position* and stay there until her side is placed on the defensive. The receiver's partner should drop back from her side-by-side position into the middle of the back court and cover that entire section. When the receiver returns a high service with a smash or drop shot, she should then take her base in the back court while her partner dashes up to *net position* ready to kill off any weak returns in the fore court. If the receiver is forced to clear a high service, both receiver and her partner move quickly into side-by-side position.

Points To Remember During Play

1. The low, short service to the center line pocket is to be preferred to the serve to the outside pocket, the latter being a useful variation. The high service to the backhand and forehand pocket can meet with great success against a ladies team with poor overhead shots and against a team that consistently rushes the service.
2. Do not move too close to the net when playing *net position* but stay rather close to the short service line. Keep your racket at net level in order to meet the bird at the highest possible point.
3. When one partner falls back to drop or smash, the other partner should go quickly to *net position* with racket up and weight on the balls of the feet ready for action near the net. Partners should stay in these positions until the attack is lost.
4. If one partner is forced to clear from the back court or fore court, she should then shift into the nearest side-by-side base while her partner takes the alternate side base.
5. All low shots descending in the middle of the playing court should be taken on the backhand and all high shots down the middle should be made by the forehand player.
6. Try to keep all shots to the least obvious spots on the court and keep the bird going down, aiming to force the opponents to hit up.

7. Play shots that will provide your partner with an opening to finish off the rally. Never play a weak shot that will leave her in a poor defensive position.
8. Rush any low serve that comes over the net too high, using only the wrist to flick it down since no back swing and very little body action are needed so close to the net.
9. Smash whenever the opportunity arises and keep the bird low with drop shots, drives, half-court push shots, and flick down shots. The clear is not a good shot in this game unless absolutely necessary, but if forced to clear—clear to the baseline!

Advanced Badminton Techniques

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Advanced Serving Techniques

1. *Short serve*—must be kept low. It is best to serve to the inside front corner because this lessens the angle of the return. This may be varied by serving to the outside front corner.
   Teaching technique. Stand erect to serve. Students have a tendency to bend over and this means the bird has to be raised more to get it over the net. Stand about 3 feet back of the short service line right next to the center service line. Standing closer to the net will make you hit into the net more often.
2. *Flick*—good for surprise element. This shot must be very accurate or it will be a set-up. It should hit the inside or outside back corners and be high.
3. *Drive* (singles and doubles)—good for surprise and a point, if accurate, deep in backhand corner. Position should be the same as other serves for disguise. In doubles, a slight variation of this is to use an extreme serving base next to the right court's doubles side line. It isn't difficult to hit a hard drive serve to the opponents' backhand corner, but you must be careful not to serve illegally, and you must maintain a defensive sides position. In most cases, the return will be a hurried around-the-head shot or a weak backhand which you can return with a short shot to the extreme right side. Then you can take the offensive up and back position.
4. *Singles*—high and close to back line for best results. Serving stance is a wide stride position to attain power. A great deal of wrist action and shift of weight are necessary.

Rushing the Serve in Doubles

1. Timing must be perfect or you'll get caught out of position.
2. You have to be on your toes, left foot and weight forward, racket up. Stand about a foot back of the short service line.
3. Placement—(1) down the line net shot or (2) down the line half court shot (in alley) or (3) right back at server.

Backhand Overhead High Clear

This is the most difficult shot in the game, and most girls do not have the strength to return it with a high clear to the base line. Two suggested alternatives are: (1) hit a drop shot—down the line or crosscourt; (2) let the bird drop to shoulder height and hit a drive down the line.

Around-the-Head

1. It is a forehand stroke hit on the nonracket side of the body about head high.
2. It should be developed to be used in place of a weaker backhand stroke.

Net Play

1. Contact bird as close to top of net as possible.
2. Hairpin is almost a rebound, with very little wrist or arm action. Cross-court is hit harder.

Doubles Play

1. Offense: Hit the bird down; up and back position.
2. Defense: Hit bird up; sides position.
3. Placement of return of serve was mentioned above. Another possibility is to hit bird deep into the backhand corner.
4. Position for receiving will vary slightly according to the player's ability. You want to be as close to the short service line as possible and still be able to get back for a long serve. A beginner should stand about mid-court; advanced player about 1 or 2 feet behind the short service line.
5. Rotation system is most popular with tournament players and probably most effective. Most important to remember:
   (a) Go in a counterclockwise direction when changing positions.
   (b) Be up and back on offensive shots and side by side on defensive shots.
   (c) Rotate from a back position to the right court and an up position to the left court.
   (d) When partner receives a long serve, go to net because she should smash or drop.

   When one player goes into the net position, the partner automatically goes back; when one player is about to smash, her partner moves in to the net to pounce on short return. If you're *not* going to hit the bird down, warn your partner so she can go to the sides position.

6. Mixed doubles is played best with the woman at the net and the man in the back court. The woman's position is at the short service line where it bisects the center service line; the man's position is exactly in the middle of the court. A slight variation is that the woman stands about 2 feet to the left of this position whenever her partner is serving, no matter which court he is in. She stands slightly to the left or right of center spot when he is receiving, then moves to center. When she receives, she returns service and then quickly moves to the center position. Because there is so little time at the net the woman must hold her racket up ready to intercept all returns that come within her reach. The actual area covered will vary according to the reach, footwork, and mental reaction of each individual.

Intercollegiate Competition

1. *General strategy.* The first axiom in competition is *think.* Aim at a definite spot. Learn to keep the bird in play. Dissect your opponent's game. Exploit her weaknesses. Try to win a match as quickly as possible with a minimum amount of effort. Avoid playing your opponent's game.
   Defense. Narrow down the possible angle of return.
   Offense. You want a wide angle to hit the bird.
2. Remember to hit the bird down most of the time.

Tactics and Strategy of Badminton

NATIONAL BADMINTON TRAINING CENTER
Lifetime Sports Education Project, AAHPER

SINGLES

General Tactics

1. Always return to the center of the court and be ready for the next shot. If it is not possible to return to center of court, stop where you are. Never be on the move as opponent is hitting the shuttle.
2. Hit the shot as far from your opponent as possible. Keep your opponent moving so he will make more errors.
3. Use clear-drop tactics for moving your opponent around the court.
   a. In tennis you move your opponent from side to side.
   b. In badminton you move your opponent up and back.
4. Be more aggressive on your own service; be more cautious and safe on your opponent's service.
5. Hit your drop, clear, and smash from same arm position. This will keep your opponent from anticipating your next shot.
6. Try to acquire good judgment of the confines of the court so you don't hit shuttles that are out.

Serving Tactics

1. Use high and deep serve as a general rule. Aim for the base line nearest the center of the court as it cuts down on the angle of your opponent's return.
2. It is good to serve to a spot; your accuracy will improve in this way.
3. Use a short serve occasionally to keep your opponent off balance. It's a good change of pace.
4. Serve should be delivered from a position as close to the center of the court as possible, usually one or two paces back of the "T" depending on your height and speed. Girls may have to stand close to the short service line to get the high deep serve.

Receiving Tactics

1. If the serve is deep, the best return is a good deep clear.
2. As a general rule, avoid cross-court clears, smashes, and drives.
3. Receiver should stand in the center of his receiving court.

DOUBLES

General Tactics

1. As long as a team is in an offensive or attacking position (hitting shuttle down), the team remains up and back. As soon as the offensive team is forced to hit a defensive shot, they must get into the side-by-side formation to cover the court more effectively.
2. Try to hit the shuttle down all the time by either a smash or a drop. Avoid hitting the shuttle up.
3. In team play, partners should learn to call "out birds" or "short serves" for each other and should also call out who is to take questionable shots.

Serving Tactics

1. There are two accepted systems for serving:
   a. Side-by-side. Used if you are going to high serve most of the time. Both partners defend their half.
   b. Front-and-back (this method is *preferred*). Provides better court coverage on the low serve and keeps you in an attacking formation.
2. *Low serve.* If serve is hit low, server follows it for one step and then stops. He must cover all net shots. His partner who stands behind him covers all deep shots.
3. *Short serve.* This is used most of the time in doubles.
4. *High serve.* If server hits the shuttle high and deep, both partners assume the side-by-side position.

Receiving Tactics

1. For a low service, try to return serve with a close net shot or a push shot flat down the closest side line. Avoid crosscourt returns except for a change of pace.
2. For a high serve, receiver should quickly smash the shuttle down if possible. If unable to smash, drop the shuttle usually straight ahead.
3. Player usually stands about one or two paces back of short service line to receive the serve.

MIXED DOUBLES

General Tactics

1. The man covers all of the back court while the girl covers the net. This up and back formation is maintained at all times if possible.
2. During play, girl stands on short service line or slightly in front of it.
3. The team tries to hit all shuttles down if possible. When not possible, they play flat drives or the "push" (half court) shots down either side line.
4. Avoid cross-courting of the shuttle as it is very dangerous.
5. When either partner hits a deep clear, the girl should cover the one-quarter of the court opposite the side of the clear and the man covers the remaining three-quarters of the court.
6. In team play, partners should learn to call "out birds" or "short serves" for each other and should call out who is to take questionable shots.

Serving Tactics

1. Girl serves from one pace back of short service line and covers all net shots even when man is serving.
2. Man serves from about three to four paces back of short service line and covers all deep shots both on his and his partner's serve.
3. The short serve is used most of the time in mixed doubles.

Receiving Tactics

1. For low service, try to return serve with a close net shot or a push shot flat down the closest side line. Avoid cross-court returns except for a change of pace.
2. For a high serve, receiver should quickly smash the shuttle down if possible. If unable to smash, drop the shuttle usually straight ahead.

evaluation

Skill Tests

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Too often skill tests are considered as ways of classifying and checking the improvement of a student's skill. Below are brief descriptions of badminton tests followed by comments on some uses of the tests as teaching devices. Maximum value from a skills test can only be obtained by using the tests as teaching drills and practices devices.

Short Serve Test

The short serve[1] test is given on a court. A rope is strung 20 inches above the net. Arcs are drawn on the floor at the intersection of the center line and the short service line of the right service court.

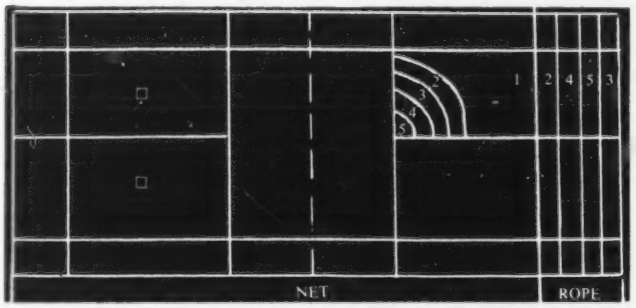

Figure 1. Floor Markings For Short Serve and Clear Tests

The object of the test is to perfect skill in serving. The person being tested executes a legal serve from one court into the target marked in the opposite court, having the shuttle pass *between the rope and the top of the net.*

[1] Scott, M. Gladys, and French, Esther. *Evaluation in Physical Education.* St. Louis: C. V. Mosby Co., 1950. p. 66.

In learning the serve, most beginners have difficulty in keeping the shuttle close to the net as well as having it land near the short service line. The shuttle is usually *hit* on the serve rather than *guided* across the net, and the serve is often unduly rushed. By having a restricted area to serve *through* as well as *into*, players will slow down the serve and acquire more of a guiding motion to their serve. If the shuttle goes over the rope, it should be pointed out that the server would probably lose the serve as the result of a smash return. This makes players more aware of how important it is to serve correctly, since points are won only while serving.

Clear Test

A rope is placed across the court 14 feet from the net and 8 feet from the floor for the clear test.[2] Lines are made on the floor of the backcourt on one side of the court. The lines are parallel to the back boundary line and the doubles service line, and run the width of the court. Two boxes are drawn on the opposite side of the net. The person being tested stands between the two boxes (See Figure 1). A skilled player stands on the target side of the net at the intersection of the short service line and the center line and serves the shuttle to the person being tested. The object is to return the shuttle with a clear stroke over the net and rope so that it will land in the target.

Developing good clears is a major concern of the badminton instructor. The nature of a good clear is good length and height; and this requires strength and excellent timing. Beginners often practice clears by rallying back and forth on the court and are usually not aware that the distance and height required of the stroke are lacking. If the imperfections are realized, usually the skill level which their opponent possesses does not demand that they exert themselves and improve the stroke. The test sets up goals which are difficult to attain unless an individual improves or changes her stroke. The test forces the student to watch the shuttle constantly, move into proper position in relation to the bird, and get the body and wrist into the shot, as well as requiring her to work on accuracy.

Volley Test

The volley test[3] should be modified for practice as it calls for a special type of "bird." Probably the distance from the wall should be decreased as the rebound of a regular shuttle is less than that of the special one.

[2] Scott, M. Gladys, and French, Esther. *Ibid.*, p. 72-73.
[3] *Ibid.*, p. 74-75.

A line is drawn six feet from the wall and parallel to it. The player stands behind the line, and on a signal, serves the shuttle underhand against the wall, continuing to volley it as many times as possible for 30 seconds. One point is scored each time the shuttle hits the wall, provided it is not stroked while standing over the line. The starting of the shuttle is not counted.

This test is an excellent wrist strengthener. The farther back a player can cock her wrist, and the faster the racket head can be swung through, the more powerful the stroke. Also, the player is made more conscious of the position of the racket face at the point of contact. The sense of feeling in the fingers is more important for control in the game, and this is also felt in this skill test. Watching the shuttle and reacting quickly to the rebounding shuttle are important considerations in the values of the test. This is a wonderful exercise for class warmup, or while students are waiting for court space.

Shuttle Footwork Test

A player stands facing the net on the singles sideline of a court for shuttle footwork test.[4] On a signal she moves sideward, or turns and runs parallel to the net to the opposite singles sideline. She continues running back and forth between these two lines for 15 seconds and receives a point each time a sideline is touched and half a point when the center line is reached.

This is an important test. Badminton is an extremely fast game, and the quicker a player can position herself properly the more time she has for the execution of strokes. Good stroking is dependent upon proper footwork, and that means being fast in starting, turning, moving, and stopping, as well as being on balance with the weight on the balls of the feet. This test requires all these aspects of good footwork.

These skill tests are a few of many. Keeping scores and using the tests as practice drills will make them more meaningful to the students. Try these and see what good teaching devices they are.

[4] Scott, M. Gladys, and French, Esther. *Ibid.*, p. 76-77.

Knowledge Challenger

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This is a puzzle designed to challenge the college badminton player. The information pertains to rules, skills, and strategies. It may be used as a review for a test as well as an introduction to new terms and ideas. Each instructor may alter the puzzle to meet her student's level of knowledge by filling in blanks to supply answers and clues, or by deleting spaces that are not pertinent to her situation. In classes where court space is limited, students awaiting the opportunity to play may continue to learn and review badminton ideas while the instructor assists those on the courts.

DOWN

1 A team's term of service is a(n)_____.
2 The side of the racket face used to hit a forehand stroke is the opposite side from that used to hit a back _____ stroke.
3 The side not serving is called the "_____" side.
4 _____ work is extremely important in doubles play.
6 In attempting a clear, hitting the shuttle too late will cause the shuttle to go _____, resulting in a shot that may be easily smashed.
7 The side _____ lines for the singles and doubles courts are *not* the same.
8 All serves must land on or cross over the short service _____.
9 At the beginning of each game in a match, players shall change _____ (singular form) of the court.
10 Short _____ (singular form) should be taken at the beginning of a move to reach a shuttle, to gain a quicker start.
11 A _____ serve is one in which the shuttle is hit from below the server's waist.
14 Another name for the shuttlecock is the _____.
15 The serve is always delivered into the _____ opposite service court.
17 The first side to serve at the beginning of a doubles game has _____ term(s) of service.
20 An overhead stroke is considered a(n) _____, or an attacking stroke, and is preferable to an underhand stroke.
21 In the execution of a drop, one should merely _____ the shuttlecock imparting very little power to the stroke.
22 The singles service court is _____ and narrow.
25 In doubles, a game may be set to five when the score is tied at _____.
26 An infraction of a rule is a(n) _____.

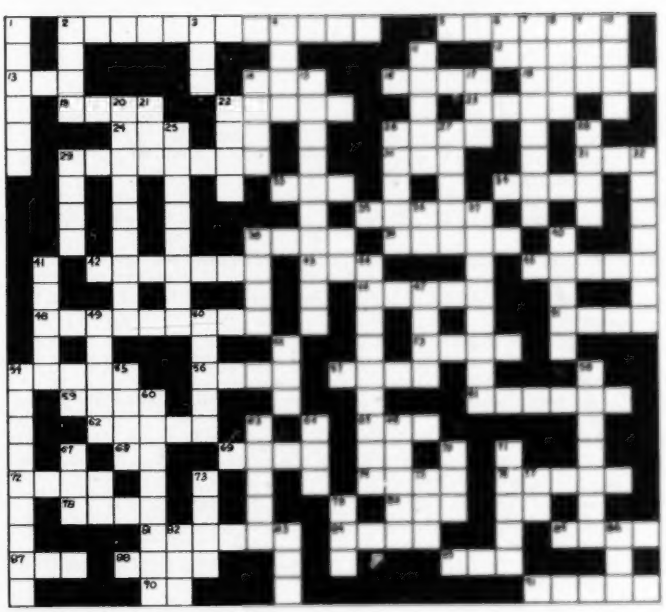
27 If a player desires to gain time to recover her court position, she should return her opponent's shot with a(n) _____.
28 A swing and _____ on the serve does not count as a serve.
29 A term indicating no score is _____.
32 There are _____ points in a doubles game.
36 In singles, EN serves to EH. As the service is obviously wide, EH catches the shuttle and calls the service out-of-bounds. Which player has committed the fault?
37 In doubles, only the intended _____ may return the serve.
38 The _____ hand grip is similar to "shaking hands with the racket."
40 Weight forward on the balls of the feet enabling quick movement in any direction describes the _____ position.
41 A powerful overhead stroke that sends the shuttle sharply downward over the net describes the _____.
44 The name badminton was derived from the Duke of Beauford's country estate in England named _____.
47 There are eleven points in a singles _____.
49 In singles, a game tied at 9-9 may be set to _____.
50 The back _____ is part of the doubles playing court but not part of the doubles service court.
52 In doubles, when the serving side's score is _____ both the server and her partner should be in the opposite service court from the one in which each started the game.
54 When the receiver makes no attempt to return a serve and claims she wasn't ready, the server shall _____ (two words).
55 Two players make up a doubles _____.
58 A _____ shuttlecock has a truer flight but is less durable than a plastic shuttlecock.
60 On the clear, a player should _____ her weight forward into the stroke so that she may quickly resume the ready position.
63 Winning two out of three games constitutes a(n) _____.
64 The advice "Keep your _____ on the shuttlecock" means to watch the shuttlecock as it is contacted by the racket.
66 The chief difference in the execution of the smash, clear, and drop is the amount of _____ used.
67 A player's racket may follow through over the _____.
70 A stroke hit from the fore court and just clearing the net is considered a(n) _____ shot. The hairpin is an example.
71 A stroke which goes low over the net and deep into the opponent's court is called a(n) _____.
73 Failure to change from the forehand to the backhand _____ on backhand strokes results in a weak return.
75 Touching the _____ with a player's body, racket, or clothing is a fault.
77 The serving side is called the "_____" side.
79 The national governing body for badminton in the United States is the American Badminton Association. Give the abbreviation.

82 If a player serves from the wrong service court, wins the rally, and the error is detected before her next service, a(n) _____ is called.
83 A singles game may be set to two when the score is tied at _____.
86 The server's score is one. In the play following her service a let is declared. Her score is _____ and she serves again.

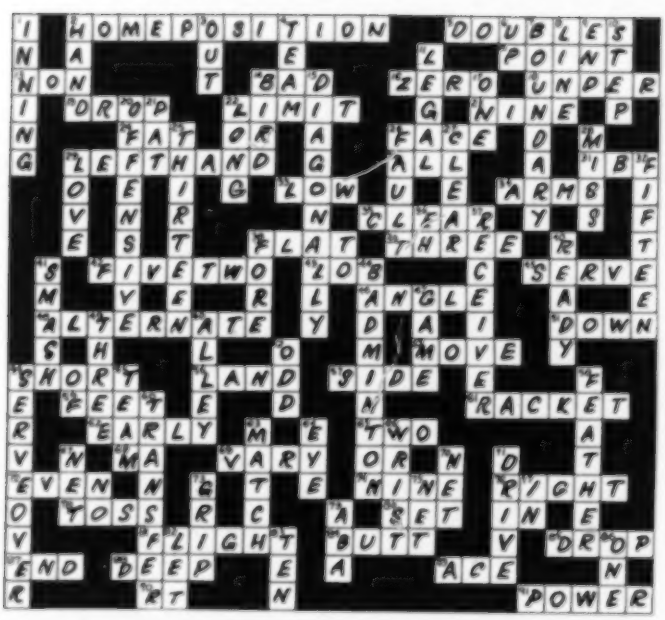
ACROSS

2 The _____ (two words) is the central location on the court from which a player is able to reach most shots easily. In singles, she should return to this area to await her opponent's shot.
5 To gain the attack and maintain it is the primary objective in _____ play.
12 On a service, the shuttle touches the top of the net and lands in the correct service court; the receiver lets it drop to the ground. The server is credited with a(n) _____.
13 The backhand grip is used to hit strokes on the _____ racket side of the body.
14 In singles, a service that lands in the side alley is a(n) _____ serve.
16 After a game has been set, the score reverts to _____.
18 Using a(n) _____ hand motion to hit the shuttle indicates that a player is on defense.
19 If her opponent is in the back corner of the court, a player's next stroke should probably be a(n) _____.
22 Gripping the racket too far up the handle or extending the forefinger up the side of the handle are common grip faults and should be avoided as they _____ wrist action.
23 The score is 8-9. In returning a service, the receiver slings the shuttle. The score is _____. (Give only server's score.)
24 The service court for doubles is short and _____.
26 All strokes should be hit off the center of the racket _____.
29 In singles, when the server's score is odd, the next service should be delivered from the _____ court. (hyphenated)
30 _____ is a term indicating tie score.
31 The world governing body for badminton is the International Badminton Federation. Give the abbreviation for this organization.
34 To prevent a cramped swing, a drive should be hit at _____ distance from the player.
35 A(n) _____ sends the shuttle high over the net and deep into the opponent's court.
38 A shuttle hit with a(n) _____ racket face should travel horizontally.
39 At a score of 14-14, the team first reaching 14 has the option of setting the score to _____.
42 The receiver has two points, the server five. The score would be announced as _____. (hyphenated)
43 A clear may also be called a(n) _____.
45 Players may earn points only when they _____.
46 The _____ of the racket face upon contact with the shuttle determines the direction of the shot.

48 After each point, the players _____.
51 An individual's term of service is called a(n) _____.
53 It is important that a player is able to _____ quickly. Therefore her weight should be kept forward on the balls of the feet.
54 The _____ service is used primarily in doubles to take advantage of the short but wide court.
56 Birds are judged in-bounds or out-of-bounds depending on where they first _____.
57 A player should have her _____ or at least her shoulder facing the net on a drive. This position prevents her body from limiting her swing.
59 The server's _____ must be in the service court from which she is serving or it is a fault.
61 The _____ should feel like an extension of the hand.
62 The shuttle should be met as _____ as possible to prevent the opponent from gaining additional time to get ready for the shot.
65 After the first inning of doubles, each side receives _____ term(s) of service.
68 Partners M & A have just won the first game of a doubles match against partners M & I. Partners _____ will serve first in the second game.
69 For good strategy, one should _____ the strokes she uses.
72 In doubles, if the serving side's score is _____, both the server and her partner should be in the service court in which each started the game.
74 In singles, if a player does not choose to set the game when the score is tied at _____, she may still set the game if the score becomes tied at ten.
76 In doubles, the first service for a side is delivered from the _____ service court.
78 To determine who will serve first, players shall _____ the racket.
80 To _____ a game means to extend the game by increasing the number of points necessary to win.
81 The path the shuttle follows after being hit is its _____.
84 In gripping the racket, the heel of the hand should be against the _____ of the racket.
85 To deceive the opponent, the same preliminary motion should be used on the clear, smash and _____.
87 If the opponent chooses to serve first, the other player may choose the _____ of the court on which she shall start play.
88 The basic serve used in singles lands _____ in the opponent's court forcing the receiver away from the net.
89 _____ is a term indicating a point and often means that an opponent was unable to return a serve.
90 Rotation team play is an advanced system of doubles play in which players move in a counterclockwise direction as they cover the court. Give the abbreviation for this system.
91 Wrist action is necessary to achieve _____ in badminton strokes.



(Answers on page 119.)



(Answers for page 118.)

Badminton Skills Through Circuit Training

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Badminton circuit training is a method of physical conditioning which enables the participant to develop strength, agility, flexibility, endurance, and coordination. Equipment and facilities are utilized in ways which permit a full workout for off court practice, leaving the courts available for play.

The circuit described in this article can be set up with minimum equipment and space. The 12-station circuit can be used with a set time schedule or for general practice, and the difficulty can be increased or decreased to fit the needs of individuals or groups. This circuit, developed by the authors as a method of handling large classes with limited court space, was adapted from the fitness circuit training booklet issued by the President's Council on Physical Fitness.

The circuit may be set up anywhere space is available. Exercise stations should be arranged around the gymnasium floor and numbered consecutively. The diagram shows one possibility, but the stations may be rearranged to fit available facilities and space. Leave an open running lane for the jogs around the perimeter of the exercise area and enough space between stations so the participants do not interfere with each other. The class should be divided into 12 groups with each group starting at a designated station and progressing around the course counterclockwise, performing the skills at each station until they return to their starting station. Other class members can be playing on the courts or practicing specific skills. The students should understand the purpose of each station and the importance of performing the exercise correctly.

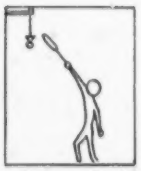
Develop coordination

STATION 1—JUMP ROPE

Starting goal, 50 times.

Finish goal, 100 times.

Individual jump ropes are used. Students keep elbows close to body using wrist to turn the rope. They may use a two-foot jump or alternate feet.



Develop coordination and timing

STATION 2—OVERHEAD HIT

Starting goal, 10 times.

Finish goal, 20 times.

Shuttlecock may be suspended from a basketball goal or other device for hanging and should be adjusted at various heights to take care of the individuals. The bird should be hit away from the playing court. Stop the bird between each hit. Jog one lap around the area.

Develop proper stroke technic on moving bird

STATION 3—WALL VOLLEY

Starting goal, 50 times.

Finish goal, 100 times.

Using masking tape, mark a line on the wall five feet high from the floor. A three-foot restraining line and a six-foot restraining line should be marked on the floor. The bird is started with an underhand hit from behind the six foot line and the student should move forward to the three-foot line to continue hitting it against the wall above the five-foot line. If a student fails to hit the bird, it is re-served from behind the six-foot line. The count is accumulative.

Condition student

STATION 4—SIDE STRADDLE HOP

Starting goal, 20 times.

Finish goal, 40 times.

Swing arms upward and touch overhead while jumping to land with feet sideward and apart. Return to starting position. The jump should be done with the feet shoulder width apart.

STATION 5—RACKET FLIP

Starting goal, 10 times.

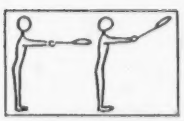
Finish goal, 15 times.

Should be done in each direction.

Front—Extend racket arm in front of the body keeping the elbow straight. Use forehand grip, racket face up. Flip rackethead upward and downward using the wrist.

Forehand—Extend racket to forehand side, racket facing forward; flip racket forward and backward using wrist.

Backhand—Extend racket to backhand side. Repeat flips. For additional strengthening of wrist, keep press on the racket. Jog one lap.



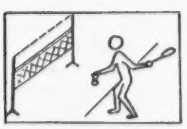
Improve wrist action

STATION 6—LOW SERVES

Starting goal, 10 times.

Finish goal, 20 times.

Stretch a net, five feet high, between two wooden standards. Attach masking tape 16 inches above top of net. Tape two lines on each side, 6½ feet from net. A table tennis net may be used. No attempt is made to serve diagonally. Serve low short serves over the net between the net and the tape suspended above the net. The shuttlecock should land beyond the short service line.



Accuracy-short serve

STATION 7—AGILITY JUMP

Starting goal, 20 times.

Finish goal, 40 times.

Place two 18-inch strips of masking tape to form four squares. The students jump as directed without stepping on the tape. Each jump counts as one. Jump on both feet from lower right of square (1) to top right of square (2) to lower left of square (3) to top left of square (4) repeat.

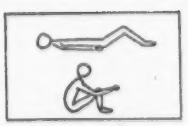
Strengthen calf muscles

STATION 8—SIT-UPS

Starting goal, 15 times.

Finish goal, 25 times.

Start in hook lying position. Thrust arms forward, curling the neck and back as you come up until inside of elbow touches outside of knees. Keep chin tucked against chest. Roll back to starting position. Up and down is scored as one. For degree of difficulty, cross arms and keep hands on shoulders, elbows touch knees.



Good muscle tone of abdominals

STATION 9—SHUTTLE RUN

Starting goal, 10 times.

Finish goal, 20 times.

Mark lines 16 feet apart with masking tape. Start behind one line and shuttle back and forth, touching each line. Each line touched counts as one time.

Changing directions

STATION 10—PUSH-UPS

Starting goal, 10 times.

Finish goal, 20 times.

Assume front-leaning rest position, as shown.

Strengthen shoulder girdle

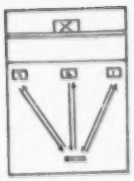
Keep body in straight line from head to toe, toes turned under. Bend elbows to a half arm bend and lower body. Return to starting position. Do not sway back. Fingertips are pointed forward. Returning each time to starting position counts as one time.

STATION 11—AGILITY RUN

Starting goal, 5 times.

Finish goal, 10 times.

Place three squares along the floor, with masking tape, one foot from wall with five feet between each square. Number the squares from the right, 1, 2, 3. Place center base 12 feet from number 2 square. Mark a 5-foot net line on the wall with a center focal point. Move from the center base to squares in order, returning to center base each time and facing the focal point on the 5-foot net line on the wall at all times. Only one student at a time runs the course. A complete circuit counts as one time.



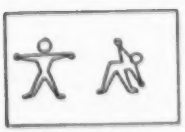
Footwork and returning to home base

STATION 12—WINDMILL

Starting goal, 10 times.

Finish goal, 20 times.

Start with arms extended from shoulder and feet apart. Bend and twist trunk, touching right hand to left toe. Return to starting position. Repeat action to other side. Keep arms extended and legs straight. Each toe touch counts as one time.



Flexibility

teaching aids

How To Make a Fleeceball

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The fleece ball is a simple teaching device which has many varied uses in teaching the fundamentals of badminton. First, it provides a relatively inexpensive device which can be used for teaching stroking. Secondly, it can be used off a wall or other surface, and third, it provides an even rebound for the beginner in learning to use the racket. It is easy to make: construction of a fleece ball could become a project for class members.

The following is a simple step-by-step procedure which may be followed in constructing the fleece ball. All the steps are illustrated in the pictures.

1. Obtain a skein of rug yarn. This may be bought in a variety of colors, but orange, red, and yellow are easiest to follow.
2. Cut two pieces of cardboard three inches in diameter. Cut a hole in the center of each one inch in diameter, as shown in step #1.
3. Place both pieces of cardboard together (side by side), take approximately four yards of yarn, center it on the cardboard (as shown in step #2) until you have completely covered the cardboard. Repeat with the remaining half of the yarn until you have gone around the cardboard twice as shown in step #3.
4. Take a sharp pair of scissors or a knife and cut the yarn on the outer edges between the cardboard as shown in step #4.
5. Leave the cardboard in place after you finish cutting as shown in step #5.
6. Take a piece of nylon string or yarn and make a tie in the center of the cut yarn and between the two pieces of cardboard as shown in step #6. Use a square knot.
7. Remove the pieces of cardboard by merely slipping them out. Cut the string used to tie the fleece together. You may leave a long string if you wish to suspend the fleece ball for stroking practice.
8. You may shape the fleece ball by rolling it between your hands. Any extra long pieces of yarn may be cut (on the outer surface) to give the ball a nice round appearance.

How the fleece ball is used is a matter of personal preference, but in the author's experience it is best used as a beginning device before the student is introduced to the shuttlecock. This enables the beginning student to develop his strokes without worrying about hitting the ball too far away. It also helps to develop a sense of timing through eye-hand coordination, since the speed of the fleece ball is moderate.

Step 1

Step 2

Step 3

Step 4

Step 5

Step 6

equipment

Purchasing and Care of Badminton Equipment

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Badminton equipment varies greatly in quality and cost. Equipment for school badminton classes can be obtained relatively inexpensively, while there is almost no upper limit to the cost of tournament rackets and shuttlecocks. This article will mention the various types of equipment in use today and suggest the types of equipment which might be used in a school situation.

I. RACKETS

A. Frames

Most badminton rackets in use today have a wooden frame (usually ash) and a steel shaft. Racket weights vary, but the usual weight is between 4½ and 5 ounces. The lighter racket gives more speed in stroking, while a heavier racket provides the player with more power. Although it is important to have the weight of the racket appropriate to the strength and ability of the player, the most critical factor in buying equipment is to have a well balanced racket. Racket handles should be of a size which feels comfortable to the individuals using them. Handle sizes usually range from 3½ to 4½ inches in circumference. A perforated leather grip is considered more durable and gives a surer grip than any other material currently in use.

Other types of rackets which are sometimes used in recreational play and school badminton classes include those with aluminum frames, all-wood frames, and steel frames. Many inexpensive rackets with steel shafts or all-wood frames are available for school or recreational use.

B. Strings

Both nylon and gut are used in stringing badminton rackets. Nylon strings wear well, but do not possess the life and resilience of gut strings. Gut strings come in different gauges or thicknesses—

19-gauge is a heavy-duty gut, 20-gauge is a good playing average, and 21-gauge is a light tournament weight. Nylon strings are advisable for school use because they last longer and are less expensive than gut strings.

II. SHUTTLECOCKS

Three types of shuttlecocks are being used at this time. The nylon and plastic shuttlecocks are widely used in school badminton classes and for recreational purposes because they are more durable and therefore less expensive than feathered ones. The feathered shuttlecock, however, is considered to have a truer flight than the nylon and is used exclusively for tournament play. Nylon shuttlecock prices range from $5.00 to $7.50 per dozen, plastic shuttlecocks from $1.50 to $2.50 per dozen, and feathered shuttlecocks from $2.50 to $6.00 per dozen. The prices quoted are those obtained directly from the dealer and not from stores. Feathered shuttlecocks have approximately 13 speeds which advance from "73" slow to "85" fast for indoor play and "110" for outdoor use. Shuttlecocks with pointed end feathers will go farther than those with rounded ends of the same weight. A 76-grain pointed end or a 79-grain rounded end shuttlecock is the average weight for most heated places. It should also be remembered that as room temperature becomes warmer, the shuttlecock increases in speed.

A point to keep in mind when buying equipment, regardless of its intended use, is that poorly made equipment, no matter how inexpensively it may be purchased, is expensive when it must be replaced after a short while.

III. CARE OF EQUIPMENT

Badminton rackets should be placed in tight presses when not in use to prevent warping. Two points to remember when placing a racket in a press are—(1) insert it straight into the press and not at an angle, and (2) each corner screw should exert equal pressure against the racket in order to prevent its warping. Racket strings should be protected by a cover to prevent their deterioration.

Nylon and plastic shuttlecocks should be stored in a dry, fairly cool place in order to preserve their shape and good condition. Feathered shuttlecocks should be kept slightly moist or they will become brittle and break easily; it is advisable to store these shuttles in a cool, moist place where the temperature ranges from 60 to 65 degrees Fahrenheit with a humidity of 80 percent. Another method of preventing brittleness is to wrap a damp towel around the tube of shuttlecocks.